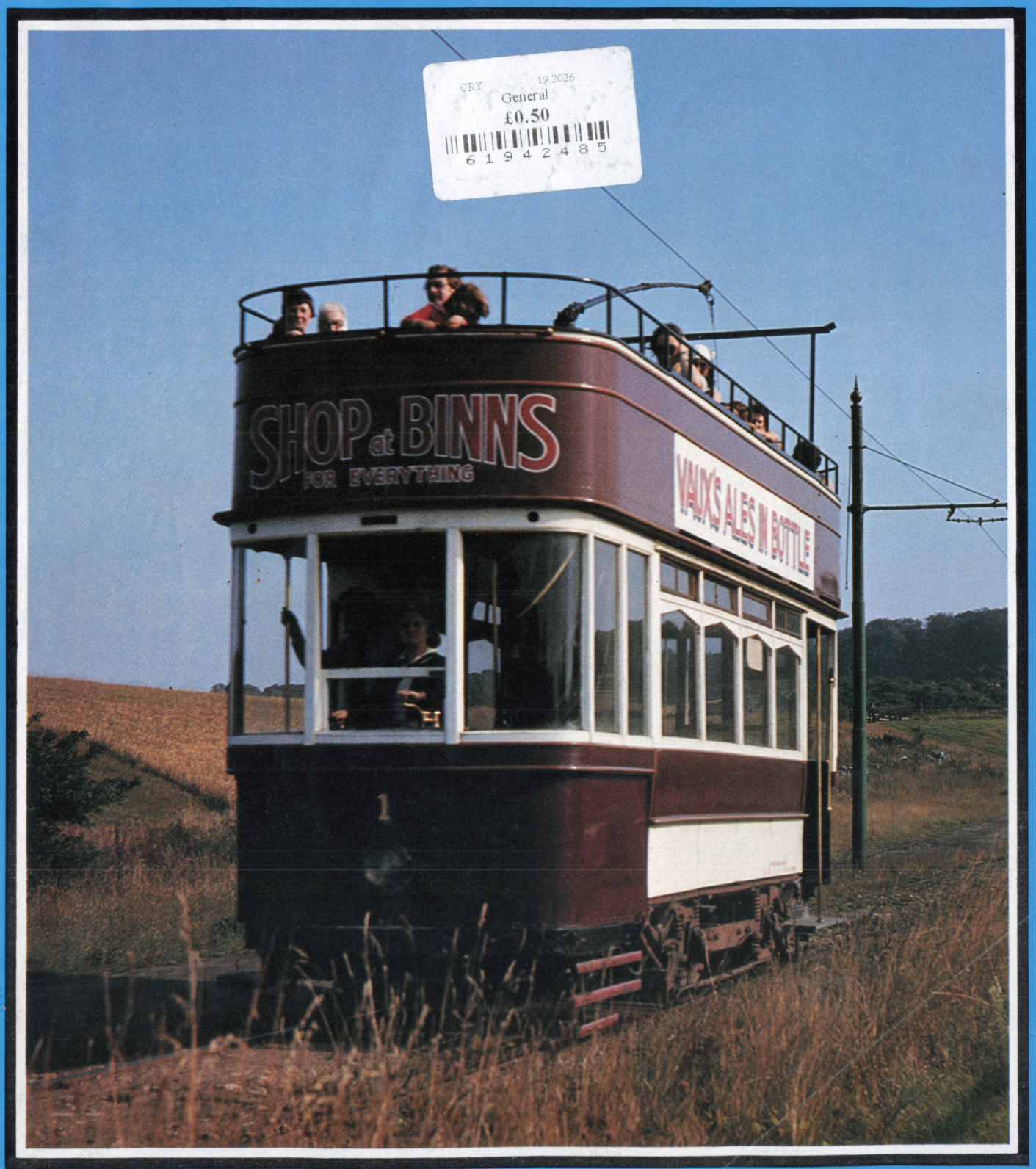
MODEL TRAINS

In this issue:

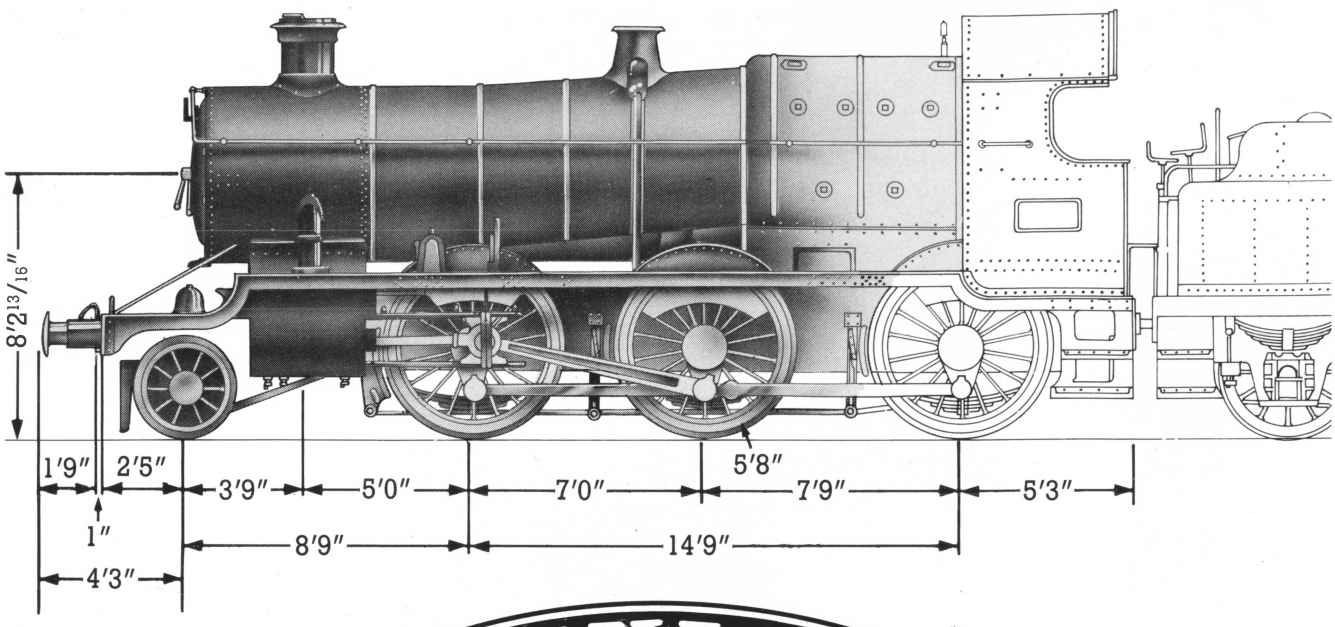
Modelling light railways
'Hall' class conversion
New Tor Tramway
Facelift for a diesel shunter
The classic M61
Plus reviews and track tests – and more!

November 1981 55p



CRY 19 2026
General
£0.50
6 1 9 4 2 4 8 5

CHURCHWARD'S LIGHTNING LOCO.



MAINLINE RAILWAYS

The design for Churchward's Mogul was produced at incredible speed.

Legend has it that only eleven new drawings were made before the first order was placed.

Churchward didn't even build a prototype.

Building Mainline's loco was a rather slower process.

It's a faithful reproduction of the preserved engine 5322 and is our first 2-6-0 model.

The detailing is perfect, right down to the lubricating cap on the centre splasher.

The Mogul's veteran style cab, typical of this era, has no side windows.

Lamp brackets and brake rods are separately attached.

Our finely-detailed tender is superior to any previous 'r-t-r' 3500 gallon tender model.

Ask to see the 2-6-0 loco and other Mainline models at your local Mainline stockist.

In 1911, Churchward's Moguls filled a gap in the range of locos available for secondary services.

Now Mainline's model can do the same for you.

Palitoy®

MODEL TRAINS

NOVEMBER 1981

AIRFIX

VOLUME 2 NUMBER 11

Editor **Chris Ellis**
Assistant Editor **Christine Lake**

Editorial address
4 Surbiton Hall Close,
Kingston, Surrey,
England.
Telephone (01) 546 0758

ABC

MEMBER OF THE AUDIT BUREAU OF CIRCULATION

CONTENTS

Editor's Desk 565
Notes, news, and comments

A Low Relief Factory 567
Michael Andress gives modelling details for converting the Builder Plus kit

Bookshelf 568
New publications of interest to railway modellers

Basis for a layout: Romney, Hythe and Dymchurch Railway 569
Novel idea for a Z or N gauge layout described by John Glover

Focus on the 08s 574
A pictorial feature showing details of variants of BR diesel shunters

From 09 to 08 576
Ian Futers converts and details the Lima diesel shunter

The Classic M61 580
A look at this versatile engine by Robin Cooper

Improving the 'Hall' 583
Working on this model to improve its detailing is Richard Gardner

Trainlines 587
Letters and comments from readers

Make it in Z gauge 588
Steve Rabone delves into the delights of engines no bigger than a nutshell

Newtor City Tramways: Part 3 591
Eric Slagg takes us further on in his detailed tram layout

Modelling the light railway theme 595
An introduction to a useful idea

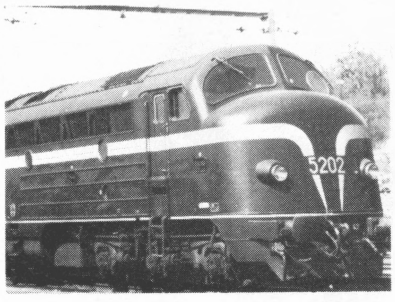
Kent and East Sussex Railway 598
A look at a classic light railway, by John Scott-Morgan

Getting Stoned 602
A novel idea for making original rock face castings by Allan Dare

Loch Tay in N Scale 604
More details on this easy project for beginners

Test Track 606
New releases from Roco, Bachmann, and Hornby, plus a SPUD

Shopwindow 609
New Products, new models, new kits, assessed and reviewed



It's a familiar shape but what is it called? The M61 is a popular Continental model in various versions. This is the actual Danish type in original colour scheme — displaying only two headlights in this form. See page 580 for the full story.

On the cover
British tram classic — Gateshead car No 1 still runs at Beamish Hall, the North of England Open Air Museum, near Stanley, Co Durham. This car is actually a rebuild of an ex-Sheffield tram and was originally built by the United Car Co of Preston in 1907. In this issue we continue Eric Slagg's tram layout series and look at some new tram model products (John Everitt).

Advertisement Representatives
Jackson-Rudd and Associates Limited,
Oldebourne House, 46/47 Chancery Lane,
London WC2A 1JB
Tel: 01-405 3611

Advertisement Manager
Brian Harriss

© All articles and illustrations published in MODEL TRAINS are strictly copyright and may not be reproduced without written permission from the Publishers. The Editor welcomes the submission of editorial material, which should be accompanied by return postage. Though every care is taken, the publishers cannot accept responsibility for safe keeping of editorial contributions.

Circulation Department
Wells, Gardner, Darton and Co, Ltd,
Faygate, Horsham,
Sussex. *Tel: Faygate 444.*
Typeset by Sprint Ltd.,
Beckenham, Kent,
and printed by Brown Knight & Truscott Ltd., Tonbridge, Kent, England.
MODEL TRAINS is published for the proprietors Palitoy, Coalville, Leics.
by Kristall Productions Ltd.,
on the second Friday of each month.
Annual subscription rate £9.50 (USA $24) from Wells, Gardner, Darton and Co Ltd.
Second Class postage paid at New York Post Office, NY.

Books by post from . . . MODEL TRAINS

BRITISH LOCOMOTIVES, 1894
by C.J. Bowen-Cooke

A facsimile reprint of a classic work on the subject of steam traction from the Rainhill Trials to the end of the Victorian era . . . by the CME of the LNWR.
416 pages, casebound **£7.50**

COLLECTING AND CONSTRUCTING MODEL BUSES
by Michael Andress and D. Armitage

Essential practical guide, packed with information, pictures, drawings, with emphasis on 4mm scale models.
104 pages, soft covers **£2.75**

FIRST BOOK OF METALWORK
by C. Cuzner

Not a model book as such but it is a good beginner's guide to working in sheet metal. Covers cutting, soldering, brazing and other skills. 210 x 140mm.
192 pages. Soft covers **£2.50**

OUR IRON ROADS, *by F.S. Williams*
Vol 1: History and Construction
Vol 2: Operation and Administration

Superb facsimile reprint of a classic book of 1883 covering the development and operation in the first 50 years of railways. The two volumes are packed with information and illustrations. Covers British, US, and German.
272 pages each volume. 216 x 138mm. Casebound
NEW! £7.50 each

A BIOGRAPHICAL DICTIONARY OF RAILWAY ENGINEERS, *by John Marshall*

This book, containing more than 600 biographies of leading railway engineers, is intended not only as a work of reference for the railway historian, but also as a unique and compact record of value to all enthusiasts. The entries include civil, mechanical, electrical and signalling engineers not only from Britain, but also leading European and North American engineers (originally £10, now reduced).
£4.95 (plus 87p p & p)

BRITISH STEAM LOCOMOTIVE BUILDERS, *by James Lowe, C.Eng., F.I.Mech.E.*

This unique reference book lists over 350 organisations which built steam locomotives together with details of their output. Well illustrated with 541 photographs and 47 diagrams carefully selected to show the characteristics and idiosyncracies of each individual builder. Over 700 pages (originally £30, now reduced).
£10.95 (plus £1.40 p & p)

FAIRGROUND STEAM, *by Anthony Beaumont*

An account of the use of steam in the fairground from the first steam driven ride in the mid 1860s up to the end of the commercial use of showmans engines in the mid 1950s. Covers all applications of steam – propelling rides – powering Bioscopes – providing lighting – transport. Over 100 illustrations, many featuring showmans engines.
Soft covers **75p**

A LIFETIME WITH LOCOMOTIVES, *by Roland C. Bond, C.Eng., F.I.C.E., F.I.Mech.E.,*

An absorbing autobiographical story of a distinguished career in railway engineering from 1920 to 1968. The author was one of the last Chief Mechanical Engineers to practise in steam, and recounts both his technical and personal experiences.
£3.95p (plus 87p p & p)

PETROLEUM RAIL TANK WAGONS OF BRITAIN, *by R. Tourret.*

This book describes the development of rail tank wagons used for carrying petroleum products from the 1870s to 1980. It covers both general design trends and individual company activities. Invaluable for modellers with 328 photographs and 86 wagon, logo and other drawings, maps and tables.
140 pages. 294 x 225mm. Casebound. **NEW! £8.85**

UNITED STATES ARMY TRANSPORTATION CORPS LOCOMOTIVES, *by R. Tourret*

A detailed history of the locomotives built for or operated by the United States Army Transportation Corps in World War Two. It starts with a numerical list, followed by class histories of the American locomotives, with over 130 photographs plus drawings.
100 pages. 294 x 225mm. Casebound. **£5.85**

WAR DEPARTMENT LOCOMOTIVES, *by R. Tourret*

This book starts with thumbnail sketches of the WW2 military campaigns, both American and British, from a railroad point of view. It is followed by class histories of the British locomotives starting with a numerical list and then deals with the separate classes of locomotives, with 92 photographs plus drawings and maps.
96 pages. 294 x 225mm. Casebound. **£4.95**

GARRETTS OF LEISTON, *by R. A. Whitehead*

A comprehensive history of one of England's famous steam engine manufacturers, this book covers the entire life span of the company from the 1850s to the mid 1930s. In addition to covering the construction of steam engines it relates details of tractors, agricultural implements, trolley buses and internal combusion vehicles built by the company. With over 150 illustrations and comprehensive appendices.
Soft covers
£1.95 (plus 87p p & p)

FAMOUS PADDLE STEAMERS, *by F. C. Hambleton*

This well-known book by F. C. Hambleton covers over a dozen paddle steamers in detail with many others included in its pages. Numerous drawings by the author include paddle wheels, scale views, house flags and signals and other interesting items of the period. Useful for authentic models for harbours, etc.
Soft covers
95p

THE GREAT EXHIBITIONS, *by John Allwood.*

In 1851 London saw a Great Exhibition of the Works of Industry of all Nations. So successful was this grand display of the arts and sciences that no fewer than 84 major international exhibitions have followed from it, in cities all over the industrialised world. Called variously Great Exhibitions, Expo's and World Fairs, they have provided landmarks in architectural and design history. This fascinating book contains numerous illustrations of early mechanical appliances, steam engines etc., of interest to modellers (originally £12.50, now reduced).
£6.95 (plus £1.40 p & p)

GREENLY'S MODEL STEAM LOCOMOTIVES, *completely revised by E. A. Steel*

Revised and reprinted in 1979, this standard reference work should be in every model engineer's library. Covers gauges 1 to 15 inch and contains over 250 diagrams and illustrations. Invaluable to both experienced model engineers and beginners in the hobby. (Originally £12.95, now reduced).
£6.95 (plus 87p p & p)

Cheques or P.O. payable to MODEL TRAINS please
(send details by letter if you do not wish to cut your copy)
Allow 50p extra per title for P & P unless otherwise marked.
Please send me:
DICTIONARY OF RAILWAY ENGINEERS ☐ BRITISH STEAM LOCO BUILDERS ☐ FAIRGROUND STEAM ☐ PADDLE STEAMERS ☐ LIFETIME WITH LOCOMOTIVES ☐ GARRETS OF LEISTON ☐ GREENLY'S STEAM LOCOS ☐ GT. EXHIBITION ☐ BRITISH LOCOMOTIVES 1894 ☐ WD LOCOMOTIVES ☐ COLLECTING AND CONSTRUCTING MODEL BUSES ☐ FIRST BOOK OF METALWORK ☐ USA LOCOMOTIVES ☐ RAIL TANK WAGONS ☐ OUR IRON ROADS 1: ☐ 2: ☐
I enclose remittance value £.....
Name.....
Address.....
MODEL TRAINS, 4 SURBITON HALL CLOSE, KINGSTON, SURREY.

M. G. SHARP MODELS

have been selling ARNOLD N GAUGE regularly since 1964, we are as confident today as we were then that ARNOLD is the finest N gauge range to come from Germany and without doubt offers the best value. Just compare our ARNOLD prices with Fleischmann and Minitrix and you will see we make no idle claims ARNOLD sells in Germany at similar prices to its competitors but if you compare the UK prices you will soon realise why we make this statement so confidently. We have no pricelists, all shipments are priced at the rate of exchange relating to our import date, phone or write for a quote.

Steam Locos

2273 Prussian T18 4-6-4T in original green £26.95
2270 DB class 78 4-6-4T £26.95
2274 as above with different cab details £26.95
2271 SNCF232TC 4-6-4T £26.95
2275 DR Class 96 0-8-8-0T £49.50
2276 Belgium version of the above, very attractive in green £49.50
2515 DB class 55 0-8-0 £32.95
2516 SNCF 0-8-0 £32.95
2518 Prussian G8 0-8-0 £32.95
2221 T3 0-6-0T, great value for the 009 fan £10.95
2210 DB 01 Pacific 4-6-2 £31.50
2231 DB class 23 2-6-2 £31.50
2224 T3 0-6-0 w/tender £18.95
2510 DR 41 2-8-2 w/smoke £46.50
2512 DB 41 2-8-2 £43.15
2540 DB class 18 4-6-2 £39.95
2535 SNCF 4-6-2 £39.95
2243 0-4-0T ideal for the 009 Fan only £15.95

Diesel Locos

2023 Class 221 BO BO £22.95
2055 V45 0-4-0 shunter £14.95
2056 SNCF Y51000 shunter £14.95

Electric Locos

2355 BR150 CO CO £29.95
2450 E16 1-DO-1 £32.50
2456 E17 1-DO-1 £32.50
2310 E194 CO CO £33.00
2311 E194 in new livery £33.00
2330 E194 in OBB livery £33.00
2412 Swiss Re4/4 TEE £33.00
2413 Swiss Re4/4 £33.00
2466 Swiss Crocodile green £47.50
2468 Swiss Crocodile brown £47.50
2930/2931 2 car electric ET 88 in green livery £37.95
2935/2936 as above in red £38.95
2481 SNCF BB9291 £29.50
2326 BR111 BO BO £25.00

Coaching Stock

3051 Langenschwalbacher 1st £ 4.25
3052 2nd/3rd class £4.25
3053 Baggage Car £4.25
These coaches are also available in green livery, 3055/56/57 at the same price as above.
3045 Clerestory 6 wheel coach £ 4.25
3046 6 wheel coach with brake cab £ 4.25
3047 6 wheel baggage car.

We try to keep the complete range of ARNOLD locos and rolling stock as well as most track items at all times.

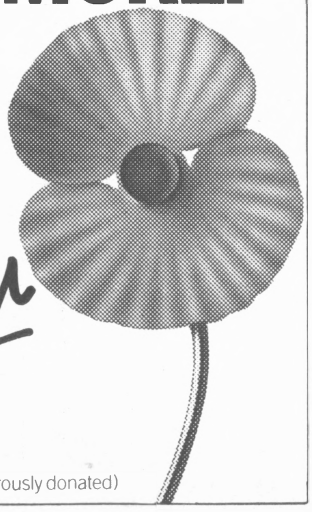
M. G. Sharp Models, 712 Atterecliffe Rd, Sheffield S9 3RP (0742) 440851

ACCESS AND BARCLAYCARDS WELCOMED.

GUARDS East Anglia's leading stockist of Z, N, HO/OO and 1 gauge in all the popular brands at discount prices.
* OO gauge British outline at 20% off, send 80p for colour catalogue and price list.
* N gauge British outline at 15% off, send 80p for colour catalogue and price list.

Visit the shop with railway atmosphere! "GUARDS" 20 Tacket Street, Ipswich, Suffolk.

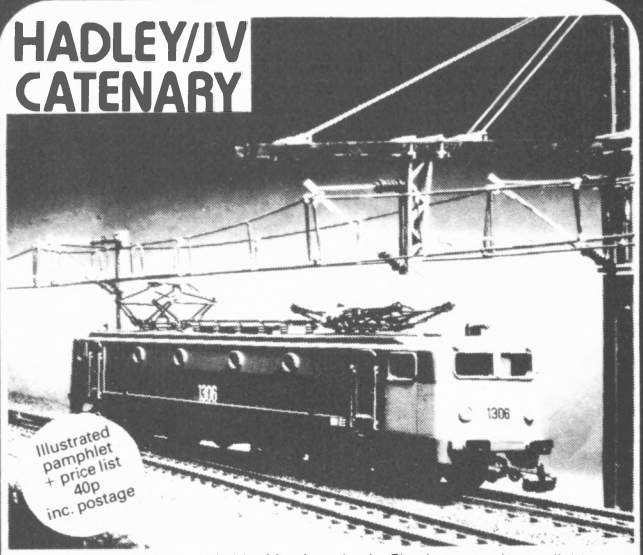
THIS YEAR, PLEASE GIVE A LITTLE MORE.



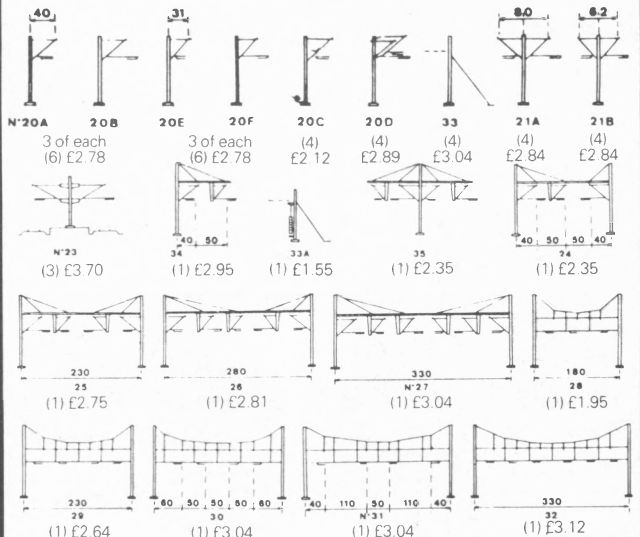
Thank you

(This space has been generously donated)

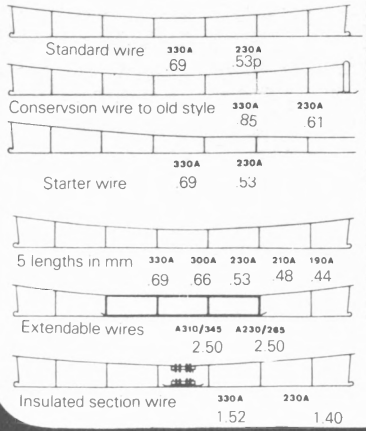
HADLEY/JV CATENARY



Several types of masts available. Metal or plastic. Plastic masts also available as KITS. Very British in appearance. Full detailed and robust.
Easy to erect. Wires are fine nickle silver rodding and soldered — not pressings. Wide selection of wire lengths, correct tension and stagger links, straining and drop wires. Ideal for new Hornby class "86" and Lima class "87".



All wire numbers indicate length in mm


Standard wire 330A 69 230A .53p
Conservsion wire to old style 330A .85 230A .61
Starter wire 330A .69 230A .53
5 lengths in mm 330A 69 300A .66 230A .53 210A .48 190A .44
Extendable wires A310/345 2.50 A230/285 2.50
Insulated section wire 330A 1.52 230A 1.40

ORDER BY MAIL

The prices shown are for kit packs, mast quantities in brackets. Masts and Gantrys are also available ready assembled individually. Metal Masts, open lattice work style, ready assembled are also available—please see our illustrated phamplet.

Post and packing please add 60p per order. Entire range usually in stock.

THIS IS THE MOST REALISTIC AND REASONABLY PRICED CATENARY SYSTEM AVAILABLE.

Open Monday-Friday 9-6
Sunday 9.30-2
We accept BARCLAYCARD, ACCESS, HOBBYCARD, AMERICAN EXPRESS, & DINERS CARDS.

HADLEY HOBBIES

131 Middlesex Street, Bishopsgate, E.1.
Or phone 01-283 9870
The City of London's one-stop Model Shop

POSTAGE 50p PER ORDER (UK)
OVERSEAS AT COST (LESS VAT)
SAE for SCALEXTRIC Bus,
N. O. 00 or Tram Lists
Access and Barclaycard welcome
SHOP CLOSED WEDNESDAYS
Tel: 051-733 3655

BARGAIN TRAIN SETS
By Mainline. No. 1 J72 Tank Loco 3 Wagons, Track, etc. **£11**. No. 2 Royal Scott Tender Loco, 3 coaches, Point, Track, etc. **£23**; No. 3 Peak Diesel, 6 Wagons, 2 Points, Large Track, etc. **£17.86**. Battery Box free or Power Controllers from **£4**.

HATTONS

DEPT MT, 180 SMITHDOWN ROAD,
LIVERPOOL L15 3JS

DISCONTINUED HORNBY
R357 Brush 2 Diesel **£8.50**; R060 Brush 47 Diesel (Green) **£11.50**; R150 B12 (Black) **£11.95**; R063 Britannia **£16.95**; R866 LNER B12 (Green) **£12.50**; **LBSC** 0/6/0 Tanks **£10.50**; London Trans Pannier **£12.50**; R078 King Edward **£17.95**. **Super 4 Track Straights 20p, Double Straights 40p, Double Curves 30p**. Points **£2.50**.

HORNBY SALE

R033 7MT 416/2 "Morning Star"	£20.75
R316 Class 47 New BR Blue	£15.95
R380 SR Schools 4-4-0 Loco	£12.95
R398 Improved Flying Scotsman	£20.95
R374 SR B of B "Spitfire"	£18.50
R396 GNR J13 0/6/0 Saddle Tank	£12.25
R320 Class 5 4-6-0 LMS Black	£18.95
R372 LNER A4 Blue 'Seagull'	£21.50
R360 Class 86 BR Electric Loco	£15.95
R779 Saddle Tank, 'Desmond'	£7.50
R780 08 Diesel Shunter, Blue	£9.15
R053 LNER B17	£18.95
R055 LMS 4P 2-6-4T	£15.95
BR or LMS 3 F Tanks	£10.50
R852 Ivatt 2-6-0	£13.50
R305 Duchess of Abercorn	£18.95
R311 LMS Patriot	£18.50
R303 Evening Star 2-10-0	£18.50
R322 Flying Scotsman	£17.50
Class 25 Blue or Green	£9.95
R069 HST Power and Dummy Power Car	£16.95
R369 Class 37 Co-Co	£10.50
R309 BR Mallard	£18.50
R506 Goods Shed	£2.75
R223 Pullman Compo or B/E	£4.25
R421-R478 GWR, SR, LMS, LNER or BR Coaches	£3.50
3 Red/Cream BR Mk 1 Coaches (2 Compos & 1 B/end) for	£7.50
R246 Speedlink 45T Steel Carrier	£2.40
R248 BR Speedlink 45T Open Wagon	£1.90
R249 Speedlink MGR Hopper	£2.50
R221 National Benzole Tank Wagon	£1.95
R504 Engine Shed	£2.75
R505 Water Tower	£2.25
R410 Turntable	£8.50
R411 Turntable Motoriser	£5.00
R663 Point Remote Control	£2.75
R503 Signal Box	£2.50
R600 Straight	£0.30
R601 Double Straight	£0.45
R603 Long Straight (Min 8)	£0.75
R604 1st Radius Curve	£0.30
R605 1st Radius Dble Curve	£0.40
R606 2nd Radius Curve	£0.30
R607 2nd Radius Dble Curve	£0.40
R608 3rd Radius Curve	£0.30
R609 3rd Radius Dble Curve	£0.45
R610 Short Straight	£0.24
R612/3 L/H & R/H Points	£1.85
R614/5 Diamond Crossings	£1.85
R616 Isolating Track	£0.60
R624/5 Point Underlays	£0.60
R638 Roll of Underlay	£2.20
R640/1 Curved Points	£2.50
R643 ½ Curved 2nd Rad	£0.24
R950 Zero 1 Master Control	£38.95
R951 Zero 1 Slave Control	£10.50
R955 Loco Chips	£6.40
R956 Zero 1 Points Module	£11.95

SAVE ON HORNBY TRAIN SETS

R535 GWR Branch Freight	£18.75
R536 LBSC Local Goods Set	£26.95
R537 BR Diesel Freight Set	£32.95
R538 Western Express Goods	£36.95
R539 Evening Star Freight	£48.95
R540 Caledonian Passenger	19.95
R541 Inter City 125 HST	£33.95
R542 Duchess Express Mail	£47.95
R543 Advanced Passenger Train	£54.95
R544 Kingsize Set	£99.95

All sets include power unit. Deduct £4 if not required.

NEW WRENN BARGAINS

NEW Parallel Boiler Royal Scot **£32.95**, Brighton Belle 2 Car Emu Choc/Cream or BR Blue **£32.00**, Pullman Coaches, all types **£5.25**, City of Stoke LMS Black, Liverpool LMS Maroon, Carlisle BR Maroon, Glasgow or Manchester BR Blue, Edinburgh or Birmingham BR Green, or Duchess of Hamilton or Sir William Stanier **£28.95** each; A4 Locos – **£28.95** each, Castle Locos – Cardiff BR, Devizes GWR, Clun, Bristol **£28.95** each, BR, LMS or LNER 2-8-0 **£28.95** each; West Countries – Dorchester BR, Bodmin BR, Eddystone **£28.95** each; 2-6-4 Tank **£21.95**.

WIRE, MOTORS, CHASSIS, BODIES

100 metre reels of wire (choice of colours for **£.2.20**. (Multistrand copper wire PVC covered). Hornby Loco Chassis incl. motor 0-6-0 Tank **£8.50**, 2P 4-4-0 **£17.50**, Scotsman **£10.45**; B12 **£8.25**, Hall **£8.50**. Duchess, King or Britt Chassis (unmotorised) **£7.50**. X04 Motors **£3.75**; 5 pole Replacement Motors **£4.25**; R664 X404 Point Motors **£1.75**; Loco Bodies plus complete Tenders for Flying Scotsman **£6.50**, Ivatt **£6.30**, LMS Maroon Princess **£5.50**. Bodies for GWR Pannier **£2**; LNER J83 B12 **£6.50**; King **£3**; Duchess **£4.00**; Evening Star **£1.50** Evening Star, Duchess, Britt, Motorised Tenders **£10.50**; Power Bogies **£7.50** (State type) 10 Hornby Couplings **80p**

MAINLINE SALE

SAVE UP TO 50% ON LIST PRICES

BR or GWR Manor 4-6-0 & Tender	£20.00
BR J72 2-6-0 Tank Loco	£6.50
LNER J72 0-6-0 Tank Loco, Green	£7.50
BR Class 4 4-6-0 4 MT green	£12.95
BR Class 7P Royal Scot	£13.50
BR Blue Class 45 Peak diesel	£9.50
BR Green Peak Type 4	£12.50
RB Restaurant Car BR Blue/Grey or Maroon	£4.75
NEW LMS Standard Bogie Parcels Van LMS Maroon or BR Blue	£4.60
Mk 1 coaches, WR choc/cream Livery, 2nd Corr and brakes 2nd Corr	3 for £7.50
Bogie Well or Bolster Wagons GWR or BR	£2.95
GWR Green, BR Black or BR Green Collet	£13.95
Jubilee loco BR Green, LMS Black or Crimson	£18.75
Patriot LMS, BR Black, BR Green, apple	£18.75
Warship diesel maroon, green or blue	£11.50
Special Offer – BR Black Patriot with Steamsound Unit	£18.75

Bargain, any of these unboxed wagons only £1 each. Minerals LMS, Persil, BR Grey, Warrener, Ellis or Courtaulds; Guards Vans BR or NE. **Following wagons £1.20 each**. Tank Wagons Mollasses or Royal Daylight; Vent Vans BR or LMS; Coke TCD; GWR Brakevan.

BARGAIN SWITCHES

On/Off or Two-Way, 10 for **£1.50** (Same price as 1975)

LIMA 0 GAUGE GRAND SALE

Fowler 0-6-0 Loco & Tenders LMS Black or Maroon **£13.50**; Class 33 Bo-Bo Diesels Blue or Green **£13.50**; Corridor Compo Coaches, BR Red/Cream, SR Green, LMS Maroon, GWR Choc/Cream, BR Blue/White **£4.95**; also Brake Ends **£4.95**; Glasshoughton, GWR, Clay Cross Gas or Hall & Dean Mineral Wagons **£2.25** each; Hand Points **£3.75**; Electric Points **£4.95**. PECO Gauge 0 Flexible Track (N/S), 12 yards for **£19.95**; Points **£10.50**.

RELCO TRACK MAINTAINERS £7.00

NEW AIRFIX BARGAINS

LMS or BR 4F **£11.95**; BR (Black) Prairie Tanks **£10.50**; GWR Prairie Tanks **£12.50**; BR or LMS Royal Scot **£16.45**; LMS Maroon or BR Red/Cream Stanier Coaches **£2.95**; BR Auto-Coaches **£4.25**; AIA AIA Diesels **£9.50**; 1st 2nd or Brakend Mk 11D Coaches **£3.50**; LMS or BR Non-Corridor (Suburban) Maroon Coaches **£3.75**, GWR Conflat Wagons with Containers **£1.75**; BR B Set Coaches **£3.95**; BR 14xx 0-4-2 Tanks **£9.95**.

NEW H & M POWER UNITS

Duettes **£21.00**, DC Control Unit **£9.50**; Minors **£13.95**; Selector Units **£9.50**; SMI Motor **£1.60**; SM3 Motor **£3.25**; Powermasters **£21.00**; HM 3000 Inertia Controllers **£35.00**. **Bargains** – Commander Module Controllers ½ price **£7**; HM Relco **£7.50**; Clipper Power Controller ½ price **£10.95**; CUI Circuit Controller ½ price **£5.45**; Loco Tester (Now Available) **£11**; New Walkabout Inertia Controller **£16.50**.

NEW WILLS SCENIC KITS

Station Forecourt Shops **£1.70**; Grotty Huts and Privy **£1.50**; Greenhouses and Coldframes **£1.70**; Advertisement Hoarding and Bill Poster **£1.70**; Bike Shed with Bikes **£1.50**; Conservatory and Garden Seat **£1.50**.

HORNBY DUBLO 2 RAIL

New Boxed as from Meccano Ltd; 4078 BR Maroon Sleeping Car **£4**; 4060 WR 1st Open Coaches **£7.50**; 4061 WR 2nd Open Coaches **£7.50**; (Can quote for others) 2728 R/H Points **75p**; Marshall Controllers **£2.50**.

'PECO STREAMLINE 00 TRACK'

£1.05 yd (N/S) minimum 12 yds by post, 25 for **£22.50** (concrete or wood) with steel rails. **80p** yd. 25 for **£16.95** (concrete or wood); Points Set Track **£2.25**; small rad **£2.45**, Med rad **£2.80**; Point Motor **£1.20**; Points or curve **£3.00**; Setrack Curved Points **£2.75**; Large rad Points **£3.00**; Short Crossing **£2.00**; Long Crossing **£2.20**; Large radius 'Y' Points **£2.80**; Small Y Points **£2.40**; Electrofrog or Finescale Points **10p** extra; Fishplates **35p**; Point Underlay **90p** pair. Roll of Underlay **£1.50**.

009 NARROW GAUGE BARGAINS

MINITRAINS Diesel Shunters, **£10.50**, 0-6-0 Steam Tank, **£11.50**; Goods Stock 6 for **£4.95**; **LILIPUT** 0-6-2 (black) Tank Loco **£16.95**; 706 0-6-0 Green Tanks **£16.95**. **PECO** 009 track **45p** per 18". Points **£2.45**. 009 Complete Loco Kits including Arnold Chassis, PECO 0-4-0 Side Tank Jeanette **£19.95**; 0-6-0 Sad. Tank James **£19.95**; 0-6-0 or 0-4-0 Vari Kit **£19.95** (all incl. Arnold Chassis). **GEM** 'Douglas' **£18.95**; Dolgoch **£18.95**; Mountaineer **£18.95**; **Dundas** Hunslet 2/6/2 Tank **£27**; Wagon Kits – Open Wagon **£1.50**, Goods Van **£1.50**, Brake Van **£1.50**, 4 Wheel Coach **£1.50**, Hopper Wagon **£1.50**, Coal Wagon **£1.50**, Eggar P24 Mineral Waters Box Van **£2**, P27 American Coach **£2**, P42 Luggage Van **£2**, P44 Brake End Coach **£2**. **Mike's Kits** 1. Talyllyn Slate Wagon **£1.10**, 2. Talyllyn 4 Wheel Coach **£1.40**, 44. Talyllyn Bogie Coach **£3.30**, 46. Talyllyn Brake Van **£1.80**; Langley Lyn. & Barn. Coach (Brass) **£12.50**.

LIMA 00 SCALE SPECIAL OFFERS

NEW GWR Single Railcar in BR or GWR **£9.50** New Class 87 LMR Electric Loco **£9.20**, BR Diesel Multiple Unit, BR Green, Blue/Grey or Blue, bargain price 2 Car Set **£12.95**, Crab Mogul BR Black or LMS **£18.50**, Special Offer, BR or GWR Pannier Tank, ½ List Price, only **£5.75**; GUV Vans **£2.30**; 3-axle Milk Tank Wagons; St Ivel, IMS, Express or CWS **£2.10** each, CCT Vans **£1.80**; N/Silver Electric Points half price **£2.35** each. All coaches **£2.75**.

N GAUGE LOCO & DMU KITS

(Complete with working chassis) **P.D. MARSH** GWR Mogul **£21**; Class 47 Diesel **£12.95**; Peak Diesel **£12.95**; **LANGLEY** GWR Railcar **£12.95**; GWR Twin Railcar **£18.25**; Class 24, 25 or 29 Diesels **£14.50** each; GWR 14xx and Autocoach **£22.50**; GWR County **£22.50**; A4 **£24.95**; A3 **£24.95**; Duchess **£24.95**; GWR 2251 **£17.95**. GWR 56xx **£16.50**; **MTK** Western Diesel **£12.50**, Met-Cam 2 car DMU **£17.50**, 3 car DMU **£22.50**. BRCW 3 Car DMU **£22.50**. Also D&M Royal Scot **£22.55**. 4F Tender Loco **£21.95**, LMS Patriot **£22.95**, J39 LNER **£14.75**, Princess **£25.00**; **GEM** 3F Tank **£17.50**, Fowler 2-6-4 Tank **£29.95**

TALYLLYN RAILWAY

Mail Order Department

Wharf Station, Tywyn, Gwynedd. LL36 9EY

ACCESS **Tel: Tywyn (STD 0654) 711012** BARCLAY

	RRP	TRP
AIRFIX LOCO'S		
Diesel A1A BR Blue/Green	£15.25	**£10.60**
Royal Scot LMS/BR	£26.25	**£18.18**
4F Fowler LMS/BR	£18.95	**£13.15**
Castle Class GWR/BR	£26.25	**£18.18**
Prairie Tank GWR/BR	£16.50	**£11.45**
1400 Tank GWR/BR	£16.50	**£11.45**
N2 LNER/BR	£23.00	**£15.99**
AIRFIX COACHES		
2nd Class Bke MKII BR Ble	£4.75	**£3.29**
1st Class MkIID BR Blue	£4.75	**£3.29**
60' Comp Corr LMS/BR	£4.75	**£3.29**
57' Bke 3rd Corr LMS/BR	£4.75	**£3.29**
British Rail Open MkIID	£4.75	**£3.29**
Cent Comps BR	£5.25	**£3.64**
Cent Brakes BR/GWR	£5.25	**£3.64**
Class B Sub GWR/BR	£4.75	**£3.29**
57' Lav Comp Non Corr LMS/BR	£4.75	**£3.29**
57' Lav Brake Non Corr LMS/BR	£4.75	**£3.29**
Auto Coach GWR/BR	£5.25	**£3.64**
Siphon G GWR/BR	£4.25	**£2.99**
Siphon H GWR/BR	£4.25	**£2.99**
MAINLINE LOCO'S		
Jubilee LMS Crimson/BRgr	£27.50	**£20.60**
J72 BR Black	£12.50	**£9.40**
Warship BR Maroon/BRgreen	£16.50	**£12.35**
Manor GWRgreen/BRblack	£29.00	**£21.75**
MAINLINE COACHES		
Rest/Buff Car Blue/Grey	£6.25	**£4.65**
Rest/Buff Car BR Maroon	£6.25	**£4.65**
57' Corr BR Maroon	£6.00	**£4.55**
57' Brake BR Maroon	£6.00	**£4.55**
MAINLINE WAGONS		
Bogie Bolster BRgrey/GWR	£4.00	**£3.00**
Fruit Van GWR Grey	£2.60	**£1.95**
7 Plank Diamond	£1.85	**£1.40**
7 Plank GWR Grey	£1.75	**£1.30**
7 Plank Patent Nut & Bolt	£2.00	**£1.50**
Hopper Hoare Bros	£2.50	**£1.90**
Hopper Cadburys B'Ville	£2.50	**£1.90**
Coke Wagon Baldwin	£2.50	**£1.90**
Tank Ronuk/National	£2.60	**£1.95**
12T Mogo Van BR Bauxite	£2.60	**£1.95**
12T Vent Shepherd Neame	£2.60	**£1.95**
12T Vent GWR Grey	£2.60	**£1.95**
AIRFIX WAGONS		
12 ton Vent Van BR	£1.95	**£1.40**
12 ton Box Car Express Dairy	£1.95	**£1.40**
12 ton Vt Tate & Lyle BR	£1.95	**£1.40**
12 ton Covered Box Van BR/SR	£1.95	**£1.40**
Spratts 12 ton V BR	£1.95	**£1.40**
Hunt & Palm 12 ton Vt BR	£1.95	**£1.40**
Persil 12 ton BR	£1.95	**£1.40**
Nestles 12 ton BR	£1.95	**£1.40**
Conflat GWR Door to Door	£2.15	**£1.50**
Conflat BR B Container	£2.15	**£1.50**
BP Petrol Tanker	£2.15	**£1.50**
20 ton Mineral Wagon BR	£2.15	**£1.50**
20 ton Goods Brake Van BR	£2.15	**£1.50**
Brake Van LMS/BR (MR)	£2.15	**£1.50**
20 ton Brake Van GWR	£2.15	**£1.50**
5 Plank Wagon Unfitted BR	£1.95	**£1.40**
5 Plank Wagon Fitted BR	£1.95	**£1.40**
7 Plank Wagon BR	£1.95	**£1.40**
21 ton Hopper LNER/BR	£2.15	**£1.50**
Mineral Wagon GWR/BR	£2.15	**£1.50**
5 Plank GWR/LMS	£1.95	**£1.40**
5 Plank Spencer	£1.95	**£1.40**
5 Plank J. Arnold & Sons	£1.95	**£1.40**
7 Plank GWR/LMS	£1.95	**£1.40**
7 Plank Glou Gas Light Co	£1.95	**£1.40**
7 Plank Hale Fuels	£1.95	**£1.40**
5 Plank Alloa LMS	£1.95	**£1.40**
5 Plank ICI BR	£1.95	**£1.40**
7 Plank Carlton LNER	£1.95	**£1.40**
Shell Tanker	£2.15	**£1.50**
Bogie Bolster Twin Packs	£3.95	**£2.95**
Macaw H. Twin Packs	£3.95	**£2.95**
7 Plank LNER Mr. Therm	£1.95	**£1.40**
12T Vent Tizer	£1.95	**£1.40**
Lyons Tea	£1.95	**£1.40**
Miles Conflat	£2.15	**£1.50**
Esso Petrol Tank	£2.15	**£1.50**
20T Mineral LNER	£2.15	**£1.50**
AIRFIX COUPLINGS		
Close Link (Airfix) Coupler	20p	**15p**
Replacement Coupler	25p	**20p**
MIKES MODELS 009		
Talyllyn State Wagon	£1.03	**82p**
Talyllyn 4 Wheel Coach	£1.38	**£1.15**
Talyllyn 4 Wheel Brake Van	£1.66	**£1.33**
N/G Bogie Coach/Bke 3rd	£3.31	**£2.65**
Corris Coach	£3.31	**£2.65**
GEM MODEL RAILWAYS 4mm scale		
Talyllyn Dolgoch Body Kit	£5.29	**£4.25**
Chassis to fit (Arnold)	£13.82	**£11.99**
Talyllyn Douglas Body Kit	£5.29	**£4.25**
Chassis to fit (Arnold)	£20.90	**£16.99**
T/R Bogie Coach 3rd or Bke	£3.14	**£2.55**
RATIO MODELS		
LMS Corr Arc Roof All 3rd	£5.31	**£4.62**
LMS Corr Arc Roof Compo	£5.31	**£4.62**
LMS Corr Arc Roof Bke Compo	£5.31	**£4.62**
LMS Corr Roof Bke 3rd	£5.31	**£4.62**
GWR 4 Wheel All 3rd	£2.00	**£1.74**
GWR 4 Wheel Composite	£2.00	**£1.74**
GWR 4 Wheel Brake 3rd	£2.00	**£1.74**
GWR Home	£2.99	**£2.60**
GWR Distant	£2.99	**£2.60**
GWR Fixed Distant	£1.91	**£1.66**
GWR Home and Distant	£4.00	**£3.48**
GWR Square Post Lower Quadrant	£1.72	**£1.50**
GWR Tubular Post Lower Quadrant	55p	**48p**
LMS Tubular Post Upper Quad	£1.72	**£1.50**
LNWR Square Post Lower Quad	£1.72	**£1.50**
LNER Latticed Post Upper Quad	£1.72	**£1.50**
Pratt Truss Gantry (Gantry parts only)	£1.10	**96p**
GWR Bogie Bolster 'A'	£1.52	**£1.32**
GWR Iron Mink 'A'	£1.38	**£1.20**
GWR 5 plank Open	£1.24	**£1.08**
GWR 12 ton Box Van	£1.52	**£1.32**
GWR Motor Car van 'Mogo'	£1.52	**£1.32**
GWR Brake Van 20 Ton 'Toad'	£1.52	**£1.32**
LMS Bogie Iron Ore	£1.52	**£1.32**
LMS 12 ton Box Van	£1.52	**£1.32**
LMS 3 plank Open	£1.38	**£1.20**
SR 12 ton Box Van	£1.38	**£1.20**
LMS 1 Plank and Dropside/Balast	£4.00	**£3.48**
LMS Open Goods. 4 and 2 Plank	£4.00	**£3.48**
LMS Traffic Coal and Loco Coal	£4.00	**£3.48**
Driver/Fireman Pack	41p	**36p**
Guards/Shunter Pack	62p	**54p**
Station Staff Pack	62p	**54p**
Seated Passengers (Male) Pack	62p	**54p**
Seated Passengers (Female) Pack	62p	**54p**
GWR Station with gates, Fencing, Ramps (white)	83p	**72p**
GWR Station Fencing (white)	48p	**42p**
GWR Station Fencing (black)	48p	**42p**
GWR Lineside Fencing (36 posts with wire)	62p	**54p**
Lineside Fencing (white 4 bar)	48p	**42p**
Lineside Fencing (black 4 bar)	48p	**42p**
LMS Station Fencing (white)	48p	**42p**
LMS Station Fencing (black)	48p	**42p**
Signal Levers Assembled (2)	£1.04	**90p**
Signal Laddering (2 lengths) New	48p	**42p**
Telegraph Poles (16 poles per packet)	48p	**42p**
Point Remote Control System Kit	£1.17	**£1.02**
Signal Remote Control Kit	£1.17	**£1.02**
Home/Distant Signals Kit	48p	**42p**
'N' Gauge Signal Remote Control Kit	£1.17	**£1.02**
GWR Open 'C' Tube Wagon Kit	97p	**84p**
LNER Empty Cask Wagon Kit	97p	**84p**
Pack of SR Pre-cast Concrete Fencing	83p	**72p**
GWR/LMS Joint Lines Loading Gauge	97p	**84p**
IAN KIRK 4mm scale wagon kits.		
LNER Bogie plate wagon 'Boplate B'	£2.13	**£1.85**
GWR Long wheelbase Mink 'D'	£1.59	**£1.38**
GWR 20T coal wagon 'Felix Pole' type	£1.02	**88p**
LNER 20T Loco coal wagon	£1.02	**88p**
GWR 12T wheelbase Mink 'C'	£1.38	**£1.20**
LMS Long wheelbase tube wagon	£1.38	**£1.20**
GWR China Clay wagon (diagram 013)	£1.02	**88p**
GWR 10T van (diagram V16)	£1.02	**88p**
BR 24½ T mineral wagon (12' wheelbase)	£1.02	**88p**
BR 21T mineral wagon (12' wheelbase)	£1.02	**88p**
LMS/BR 13T 5 plank open (steel ends)	81p	**70p**
BR 12T van planked sides steel end	£1.02	**88p**
BR 12T van plywood sides steel ends	£1.02	**88p**
BR 10T insulated van	£1.02	**88p**
LNER/BR plywood bodied van	£1.02	**88p**
LNER 'wartime' planked bodied van	£1.02	**88p**
LNER steel bodied open wagon	81p	**70p**
WESTYKITS 4mm scale wagon kits		
1923 RCH 7plank end door wooden end stantions	£1.27	**£1.10**
1923 RCH 7plank end door T iron end stantions	£1.27	**£1.10**
1923 RCH 7plank fixed end wooden end stantion	£1.27	**£1.10**
1923 RCH 7plank fixed end T iron end stantion	£1.27	**£1.10**
1890s Hurst Nelson 8T private owners mineral	£1.27	**£1.10**
LGW peaked roof private owners grain van	£1.38	**£1.20**
COTSWOLD 4mm wagon kits		
Highland Railway meat van	£1.90	**£1.65**
Highland Railway timber wagon	£1.90	**£1.65**
Highland Railway loco coal	£1.90	**£1.65**
NBR 10T box van (sliding door)	£1.90	**£1.65**
LNER fish van	£1.90	**£1.65**
LNER Longfit pipe wagon	£1.90	**£1.65**

S.A.E. with all enquiries. Orders under £10 add 40p, over £10 add 50p p&p UK only.
ALL OFFERS SUBJECT TO AVAILABILITY

M61.001 was the first of the class built for Hungarian State Railways (MAV) and this fine maker's photograph shows all the detail if you wish to add some fittings to the Piko model of this version. Note, for example, the horn on the centre window pillar. The internal body framing is well shown as is the clear family likeness to the 'parent' EMD F unit styling in USA. More pictures and the story of this type can be found starting on page 580.

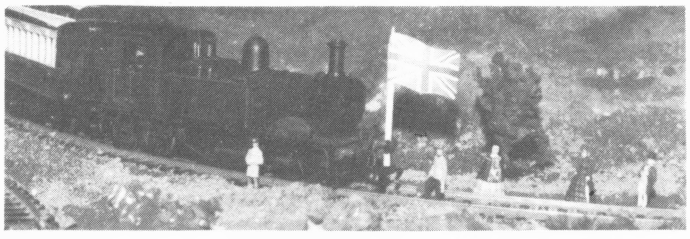
Editor's desk

Despite the impression you may get from this month's front cover this is not specifically an issue devoted to model trams. However, there are four new items reviewed of interest to tram modellers, and, indeed, between them they would enable anyone to make a start in tramway motive power. You'll see the items I mean if you read through this month's 'Test Track' and 'Shopwindow' features. Eric Slagg's 'New Tor Tramway' series continues, and here it is my sad task to record that Eric died just before the September issue appeared with the first part of the series. Hence the entire series is appearing posthumously, but it will make a fine record of Eric's work and innovative ideas which he was always happy to share with others, and his modelling experience dates back long before many of us were born. We send our condolences to Eric's widow and family. The series will continue as far as Eric took it, which is to part 5, with possibly enough material for a further part. Colin Withey, another tram specialist, will be providing a follow-up to Eric Slagg's work on the same theme with some further ideas closely linked to Eric's. Meanwhile, to those readers who wrote in praise of the 'New Tor Tramway' series, we say thanks.

We have something for virtually every interest (except perhaps specifically narrow gauge) in this issue, so there should be one or other article of direct use to you for a current project. For example, there are thousands of Lima diesel shunters running on layouts, most of them 'straight from the box' so far as we mostly see. If yours is one of these use Ian Futer's article and our 'Focus on . . .' feature to add some individuality and grime to your model to make it just that little bit different from all the others off the production line. Same remarks apply to the 'Hall'. You may well have one tucked away somethere because it is now overshadowed in terms of fine detail by more recent 'Kings', 'Castles', and 'Manors' from other manufacturers. If this is the case get it out, dust it off, and upgrade it to return to your roster with a better 'look' about. See Richard Gardner's article.

In short, with the winter modelling season now well under way you'll have more time to devote to modelling and this is a good time of the year to decide your way ahead. It could be a programme of upgrading existing locomotives and stock along the lines of our regular articles or you could be looking for new ideas completely. If this is the case read this month's introduction to the subject of light railways, then join us next time when we will be launching into the subject in a big way with a feature on models for light railways and a new layout project for a light railway in 00/HO in a very tight space indeed, yet capable of infinite expansion. If you think you've no room for a 00/HO layout, then make sure you follow our stage-by-stage coverage. This project is also designed for newcomers to the hobby and will show how basic items can be developed into, or incorporated in, the layout. Coupled with this will be some general coverage of the 00 and HO scenes with some advice for getting started. So . . . if you want fresh ideas for building a new layout this winter, make sure you have our December issue. See you then.

Chris Ellis



The editorial staff put on Victorian fancy dress to attend the formal first run on a new line built under the terms of the Light Railways Act, 1896. Here we see leased GWR No 5800 and an old clerestory coach setting out through uncompleted landscape with an inspection train. This month we look at light railways, and next month we start a series telling how to build this light railway layout in 00/HO.

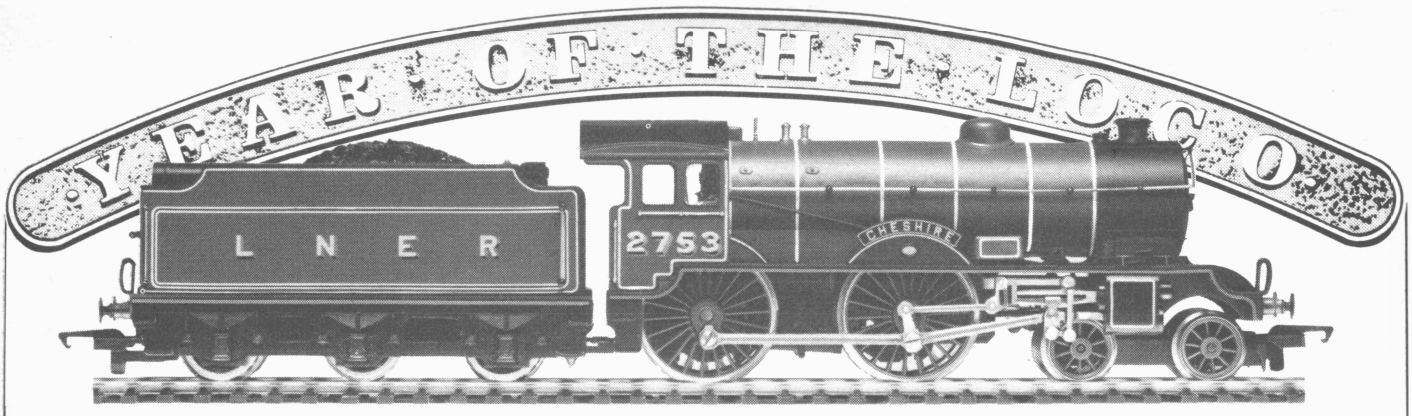
Baseboard CONSTRUCTION **£1.50 net** (plus 25p p&p)

MODEL TRAINS

A useful handbook explaining simple ways to build baseboards in simple terms. It could save you a lot of trouble! With details of joining, and supporting finished boards, and full coverage of the types of baseboard you can build to suit your type of layout. Fully illustrated with diagram and photos, the booklet is intended for beginners or anyone building the smaller type of layout. 20 pages, card covers.

ISBN 0 904811 03 6
TRADE ORDERS INVITED

Order your copy now from:
MODEL TRAINS, 4 Surbiton Hall Close, Kingston, Surrey



Hornby's latest model in the 'Year of the Loco' is a beautiful replica of an engine that had three major distinctions.

It was the first LNER designed passenger loco. Gresley stated his requirements for a three cylinder 4-4-0 late in 1925, the earliest designs were produced in February 1926 and the first engine emerged from the Darlington works in October 1927.

It was also the last 4-4-0 type to be built by the LNER.

And even if they were known as exceptionally rough riders (enginemen and firemen carried marks and bruises from being thrown around the cab), they were very good at what they were mainly used for; hauling 7 to 10-coach trains moderate distances. The D49 class was the mainstay on services in the North East and Scotland, and on one 25½ mile route, the York to Leeds business run which has a six mile stretch with an average 1 in 140 uphill gradient, their standard 30 minute service was excellent even when compared to today's powerful diesels.

Hornby's model is the 'Cheshire', No. 2753, which was built in 1929 and worked until 1959. The apple green livery on the loco and tender show off the bright valve gear, reversing rod, handrails and safety valves. Nameplates and dome are separately fitted.

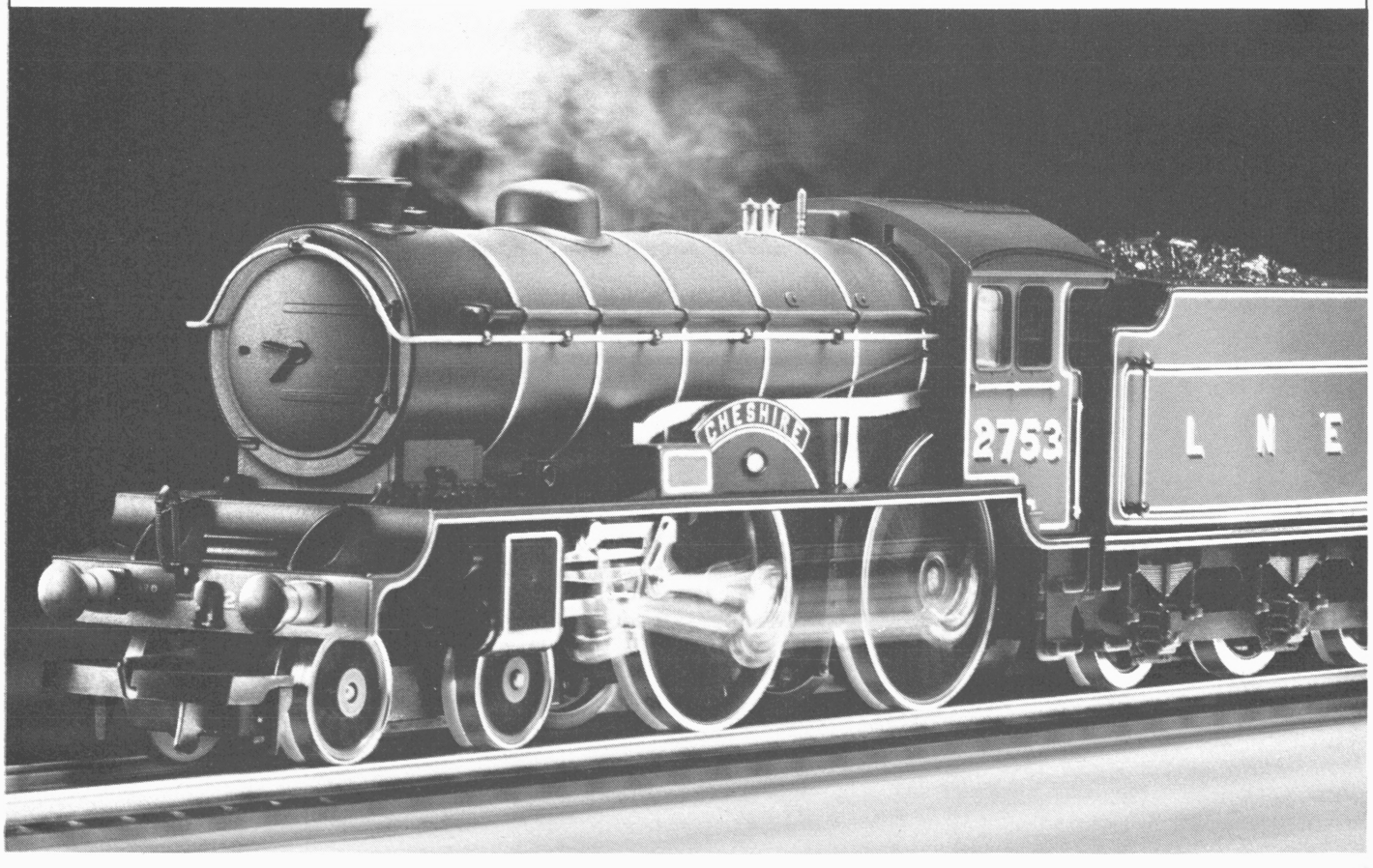
The cab windows are glazed and the cab interior is picked out in particularly fine detail. The tender is modelled on the LNER Group standard which carried 7½ tons of coal and 4,200 gallons of water. Its heavy diecast frame and powerful ringfield motor give excellent hauling capacity.

The new Hornby smoke generator adds the final touch of realism. A syringe is provided for easy refilling which gives 10 minutes of smoke.

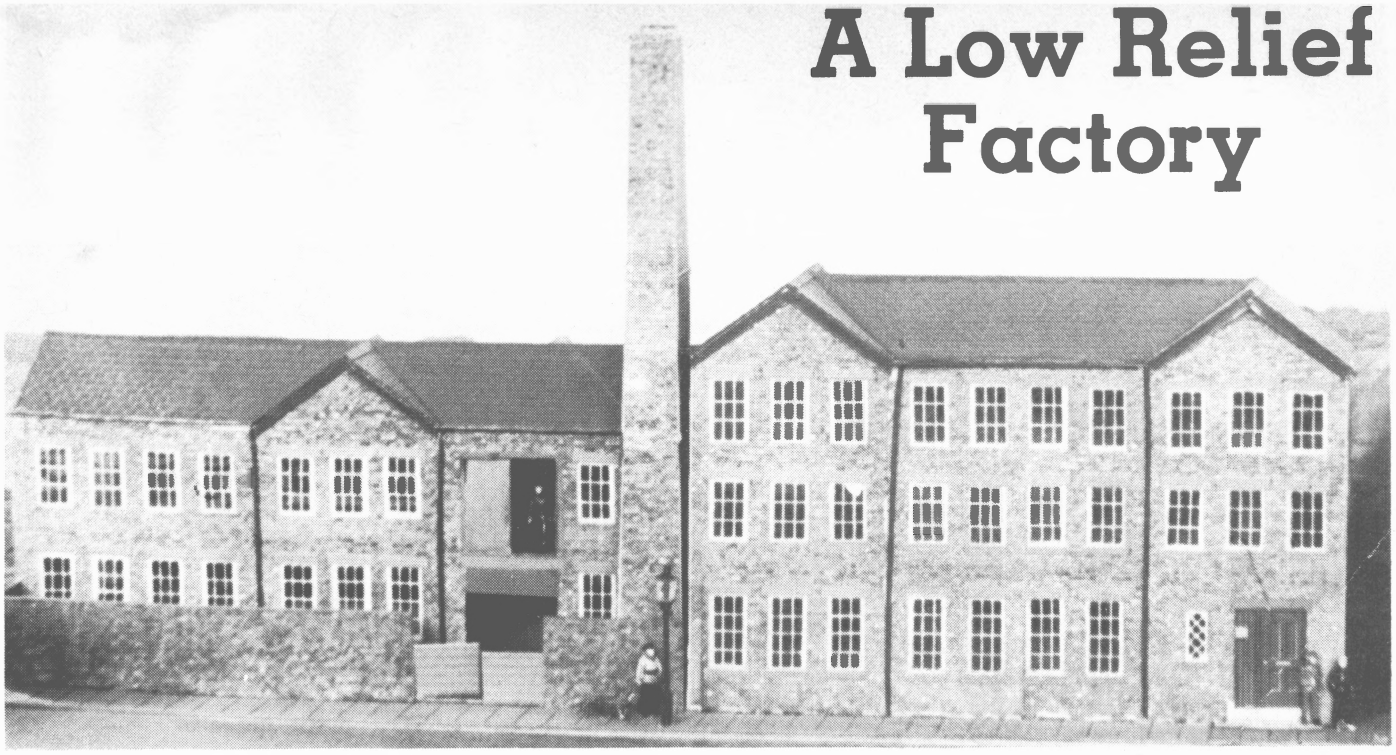
The Cheshire is just one of 14 new models in Hornby's 'Year of the Loco'. See it at your Hornby dealer.

HORNBY RAILWAYS

IT WAS FIRST. AND LAST. AND PRETTY GOOD IN BETWEEN.



A Low Relief Factory



An easy Builder Plus kit conversion by Michael Andress

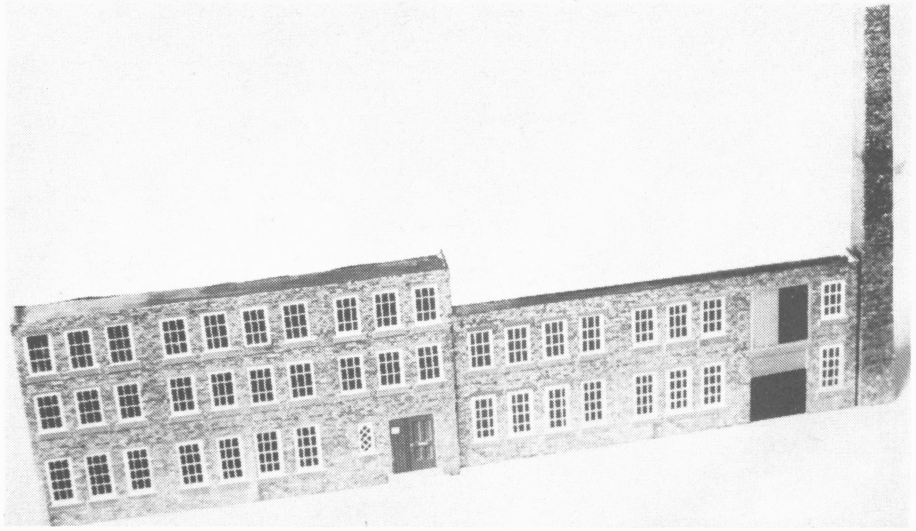
An attractive low relief model made from the Builder Plus Factory in OO scale built by a member of the Poole and District Model Railway Society. Notice the difference in the model's appearance by using hipped roofs and gables in comparison to the flat roof as seen below.

The construction of model buildings in so-called low relief, is a well known technique which provides much of the realism of fully modelled structures in only a little more space than would be required for a mere flat backscene. This is achieved by modelling the frontages in the normal way but making the side walls only an inch or so deep and omitting the remainder of the buildings. Many low relief structures are built from scratch. An excellent example is the accurate and realistic model of the Dolphin Hotel in Southampton constructed by Robert Petch and shown in one of the accompanying photographs. However it is also possible to adapt kit buildings for use as low relief models. This can give very effective results and it is often much easier and quicker than building from scratch. Because only one full wall and a small part of two others is required, two or even more low relief models can be produced from a kit designed to make only one fully modelled building. If we choose an appropriate industrial structure it can be provided with a siding just in front of it, thus adding to the operating potential as well as the scenic realism of the layout. A very suitable example is the small factory building available as a full colour printed pre-cut card kit in OO and N scales from Builder Plus (BP0013 and BPN13).

In this article I would like to show you how this can be converted very simply into a low relief model for your layout. The kit could be constructed with the hipped roofs and gables as in the original design and one of the photographs shows just such a conversion built by a member of the Poole and District Model Railway Society. However, for a little extra variety I decided to make my model with a flat roof. This is easily accomplished and, as can be seen from the photographs, makes quite a change in the appearance of the model.

I started work with the walls of the three storey building, kit part 11. With a modelling knife and a steel rule I trimmed off the gables at the top to leave a flat roof line. Though all the window and door openings are pre-cut there are still tiny tags holding the card rectangles within the openings and these should be carefully cut with a sharp modelling knife and not torn away as this would leave rough edges. As you look at the outer face of part 11 there is what would form the windowless rear wall of the building at the left hand end. I cut vertically down this wall, 2cm away from the fold. From the discarded piece I cut another 2cm wide strip and glued this on to the table at the right hand end. This gave me a building with its front made up of the front and two sides of the kit structure, and with two sides each 2cm deep. At this stage it is desirable to touch up the white card edges in the window and door openings to match the brickwork using paint or a felt tip pen of the appropriate colour.

The next step was to cut out the windows from the sheet of clear material provided and to glue them in place behind the window openings. Similarly the door, kit part 14, was cut out and fixed in position. To brace the structure, I cut four pieces of thick card 2cm wide and long enough to fit accurately into the building. For my model this was 183mm but you should cut the pieces to fit your model rather than use my measurement. These pieces form the base, roof and floors for the building. The base was fitted inside on top of the tab, which was trimmed down to a suitable size, while the roof was glued in position just below the top edges of the



A view of the low relief factory model as described in this article. Note the width of the wall in comparison to the size of a 'normal' model. The flat roof gives a typical 1930s or 1940s period 'look' while the hipped roof gives a 19th century 'look'.

walls. The addition of the two internal floors resulted in a reasonably strong structure. I painted all the internal surfaces matt black and then fitted a back of black card. It is important to have a black interior so that the lack of depth of the building is not obvious. The window sills, kit parts 15, are cut out and the cut edges of card are coloured appropriately. The sills are then cemented into place. If you prefer, this can be done earlier while part 11 is still flat, and in fact it is easier at that stage. The steps, kit parts 28, are also cut out and, after the edges are painted, are glued in place beneath the door.

A similar method of construction was employed with the other building using kit part 1. In this case I made the side wall only 15mm deep so that this building would be slightly recessed in comparison with the other. To complete my model the chimney was assembled as per the kit instructions and was fitted at the end of the two storey building. The model as it is, makes a very satisfactory low relief background structure but if you wish, you can add further details such as downpipes, door knobs, signs and notices, dustbins in front of the building, bicycles leaning against the wall, and so on.

The factory can be used for almost any manufacturing industry – or as a warehouse for beer or food. Either way it makes an economical way of filling a corner or a back wall, and you need only lay in a siding to provide yet another source of traffic on your layout.

Robert Petch built this low relief model of the Dolphin Hotel in Southampton in 4mm scale from scratch. From the front, the hotel looks like a fully modelled structure. It is only when you walk around the side that you realise that you might have difficulty in obtaining a room! The Superquick range includes some low relief kits, which are ideal for beginners.

Photographs by the author

Bookshelf

NEW BOOKS FOR MODELLERS.

The 87s *by Steve Turner. Rail Photoprints, 8 Paulmont Rise, Temple Cloud, Bristol. £1.45 post paid.*

This is the second small book in the series on *Named Diesel and Electric Locomotives of British Rail.* Each page is almost entirely covered by a photograph of these powerful engines, which haul some of Britains fastest passenger trains on the Euston-Glasgow route. With a caption underneath every picture, the pamphlet is a quick pictorial reference which will be of great value to modellers with Lima's forthcoming Class 87 model.

The Great Northern Railway *by John Wrottesley. B.T. Batsford Ltd. 4 Fitzharding Street, London W1H 0AH. £12.50.*

This is a final part of a trilogy, the first two books covering the origin and development, expansion and competition of the Great Northern, one of Britain's oldest railway systems. This is a serious work, the author having gone to great pains to get the facts right. He is extremely thorough, even to the extent of providing a list of Chairman and Directors and other Officers during the final period under review which is 1890 to 1922. It is however a lot of money to pay out for a book so before you do, make sure that the person whom you are buying it for wants a definitive study of the railway and not a general pictorial look at this line.

Lokomotiven ziehen in den Krieg, *by H. Wenzel and J. Stockklausner. Verlag Slezak, Vienna, Austria. In UK from Victors, 166 Pentonville Road, London N1. Two volumes, £9.05 each, plus postage.*

These are volumes 2 and 3 of a three volume series, the first already having appeared some while back. Though in German text, they are entirely pictorial in content, 192 pages each with an average of two big pictures to the page. As the title puts it, the book concerns locomotives in wartime, namely the Second World War. The pictures cover all the fighting areas of Europe – so we see locomotives of all nations, including British WD and US Transportation Corps locos in the 1944-45 period. Mostly, however, German, Czech, Polish, Russian, and French motive power gets into the act. Of particular interest are Jugoslav, German, and other types back in service suitably marked after capture by the Allies in the latter stages of the war. Armoured trains, armoured locomotives, some interesting camouflage and markings schemes, and a fair amount of military activity is also recorded. The pictures are culled from many sources. There is a nice set showing 52 001, the utility *kreiglokomotiv* at a press demonstration in September 1942, and also shown is the capture of the legendary giant French tanks, the FCM 2Cs on their flat cars in 1940. Rail guns, military leave trains, uniforms, battle damage, and all sorts of military railway improvisations make these two volumes extremely interesting.

Exhibition

Model Railway Exhibition at the United Reformed Church, Salisbury on October 17. Adults 40p, Children 20p. Layouts include Tregarrick and Ewhurst. Trade stands, books and films.

The Romney Hythe and Dymchurch Railway

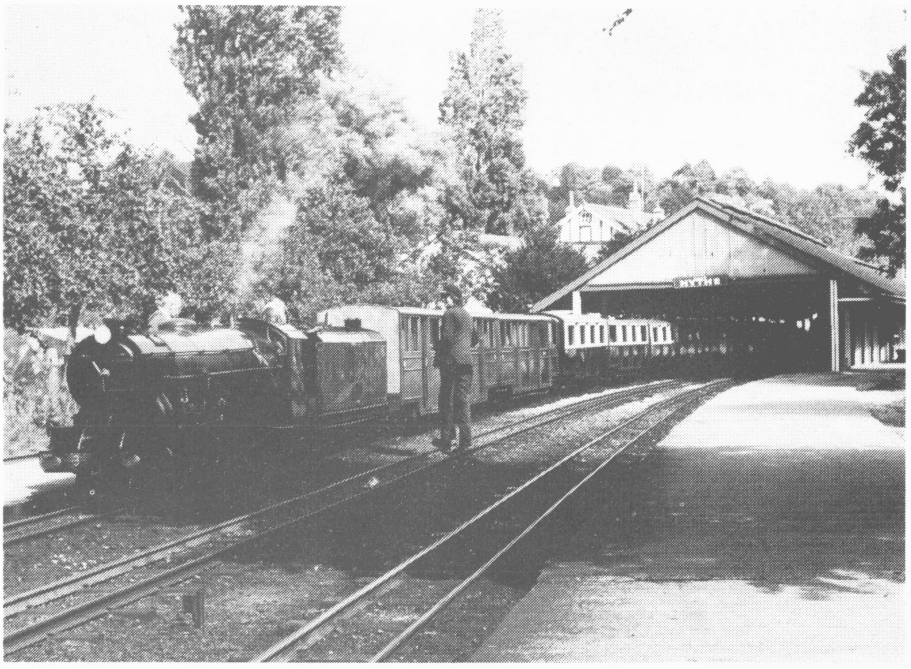
Basis for a layout

John Glover gives his ideas for a layout based on 4mm scale but using Z gauge locos and stock.

It is perhaps not surprising that layout designs tend to follow one of several well established formulae, with many of the results looking remarkably similar. This plan is an attempt to model something really different, in the form of a complete miniature railway.

The Romney Hythe and Dymchurch Railway was conceived from the start in 1927 as a steam operated main line 14 miles long. The northern section between Hythe and New Romney is double track and a top speed of 25 mph – the maximum permissible for a light railway – is allowed. Its fortunes have fluctuated over the years, but the line functions today much as it has always done.

There are 11 locomotives. Nos 1, 2, 3, 7 and 8 are modelled on the London and North Eastern Railway's A3 Class 4-6-2 Pacifics, and nos 5 and 6 are 4-8-2 variations of the same design originally intended for freight traffic. No 4 is a modified version of a standard industrial light locomotive (full-size), and was used in the construction of the railway. Nos 9 and 10 are modelled on typical North American types of the 1920s. No 11 is the only locomotive not originally built for the RH & DR, and is based on an inter-war German prototype. In addition, three petrol or diesel locomotives are used for shunting and maintenance work. Colour schemes include blue, green, red, maroon and black. There are 70 passenger coaches, seating from 12 to 20 adults, of both fully enclosed and open sided types, plus an observation/bar saloon – the 'Courage Belle'. All passenger vehicles have bogies and are from 18 to 25 feet in length; they have dropped frames between the bogies to maximise the interior space. There are also some four wheeled luggage vans, only ten feet long. Wagons are confined to those required for engineering work.



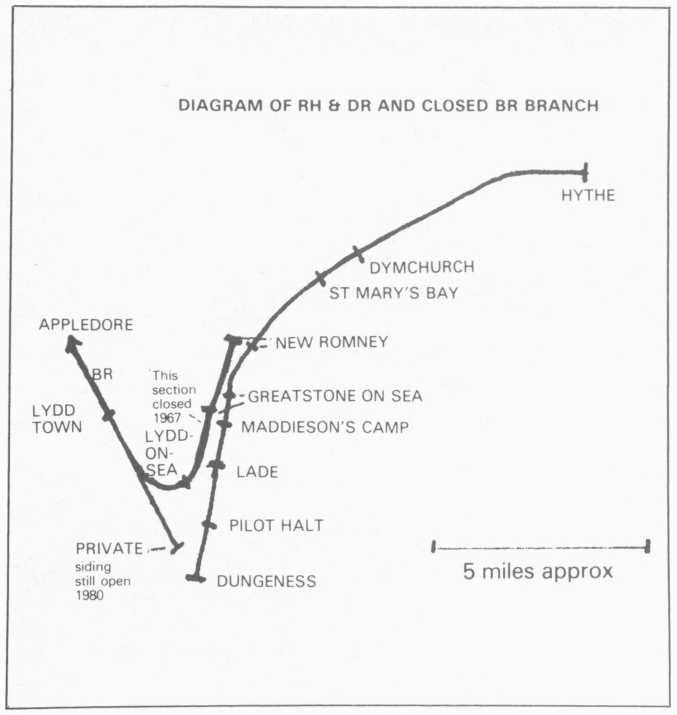
No 3, Southern Maid *about to depart. Note the guard standing nonchalantly on the rails – uniforms are of 'traditional' type for train crews and staff. Look too, at the shed in the background which has been partially scaled down in size to suit the train.*

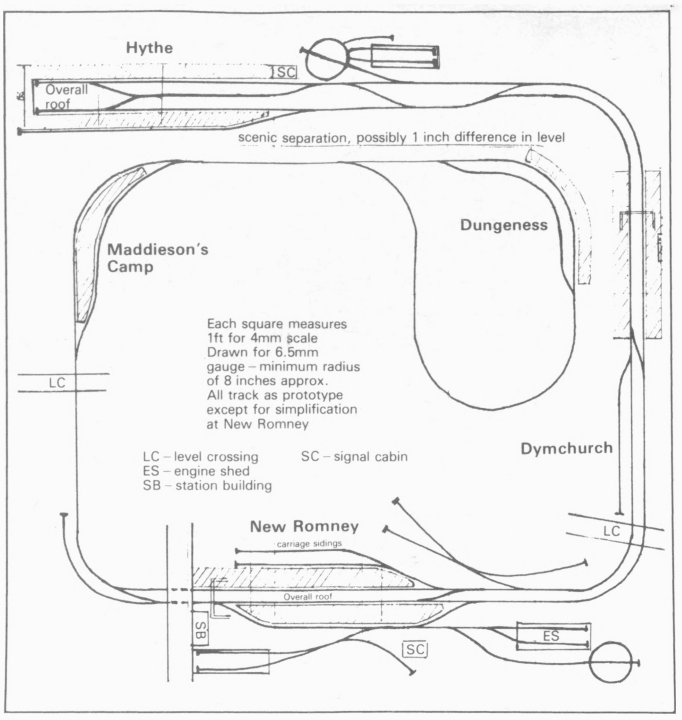
Photographs from the author's collection

A view of the main station from the street. A perfect opportunity for modellers to get to grips with some kit converting. The canopy is very similar to the one provided with the Airfix booking office kit.

The service pattern consists of a regular through service between Hythe and Dungeness, supplemented by short workings on the double track section north of New Romney, which is the railway's administrative and engineering headquarters. New Romney is thus the principal station on the line, and boasts a yard, engine and carriage sheds as well as the Works. All stations are utilitarian in design, but both Hythe and New Romney have overall roofs.

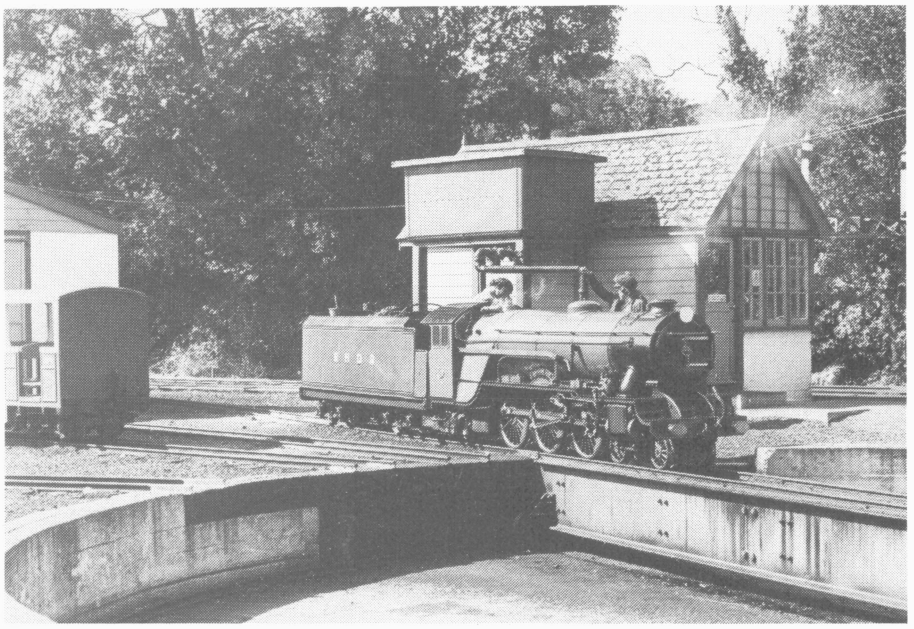
Track is laid on a variety of sleeper types, and there are sprung points which automatically guide the trains to take a certain direction. Those installed at Maddieson's Camp station ensure that trains





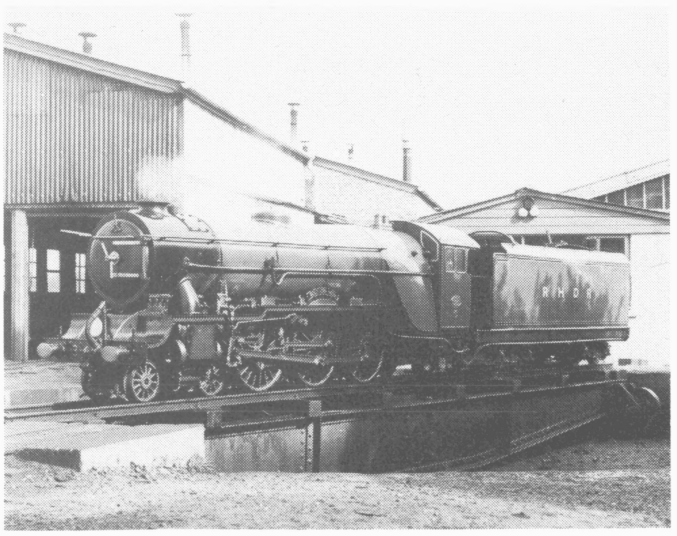
always take the left hand line from each direction, whilst at Dungeness all trains traverse the loop clockwise. Locomotives are always run chimney first, hence the need for turntables at Hythe and New Romney. Apart from a pair of semaphores at Hythe, signalling is colour light throughout, and the three aspect signals at Dymchurch are manufactured from traffic lights!

Crossing as it does the Romney Marsh, there are few engineering works, and most roads cross the railway on the level rather than by bridges. Level crossing protection varies from nothing at all to full BR style automatic flashing lights. Farmland in the northern section gives way to acres of shingle towards Dungeness with its landmarks of lighthouses (old and new) and the nuclear power station (definitely new!). Throughout the route there are reminders of the importance of the area in wartime, and concrete gun emplacements, etc, abound. Housing is mostly bungalows. British Rail services once extended from Appledore to New Romney, but these were withdrawn in 1967. A freight only link to Dungeness remains.

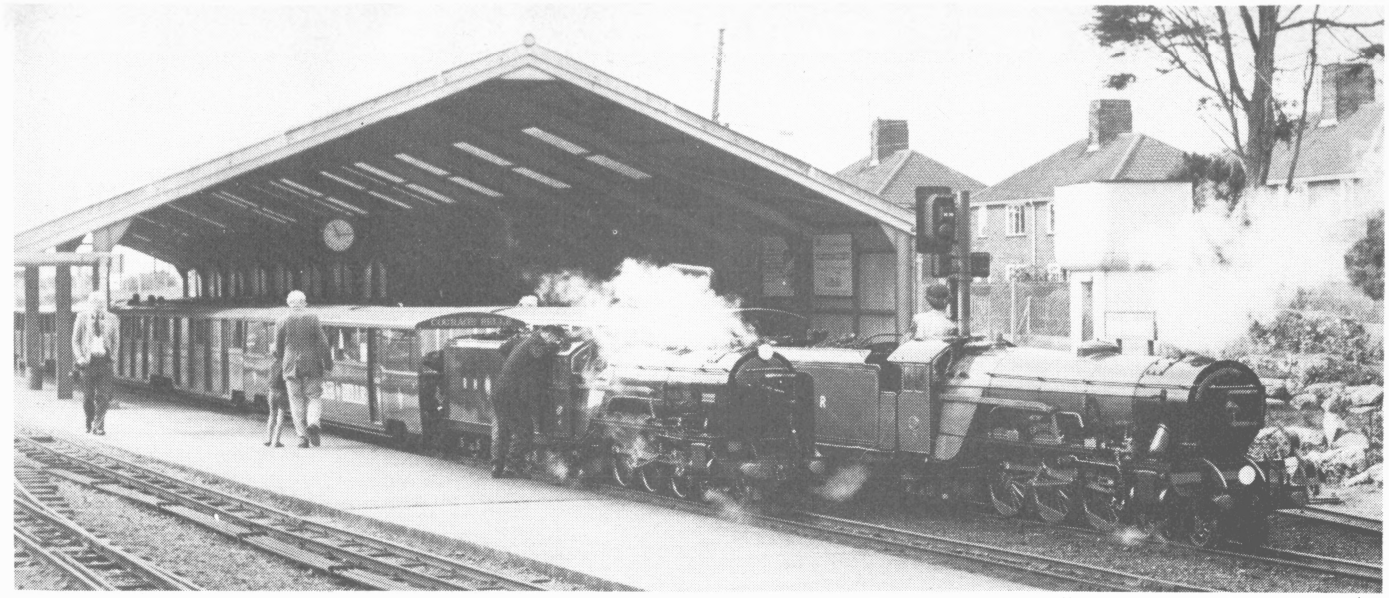


Taking water by the signal box prior to turning. The turntable is of the well type but styled as a miniature of a standard gauge version. Notice how the signal box is the normal size as it is obviously going to be used by people and must allow for the giants amongst us, as well as the pygmies.

No 1 Green Goddess *arrives with its passengers on a train from Dungeness. The semaphore signals clearly seen here in the picture are the only ones on the line.*



This photo shows the Southern Maid *on the turntable outside the shed. The shed in the background would be an easy one to try and scratch build.*

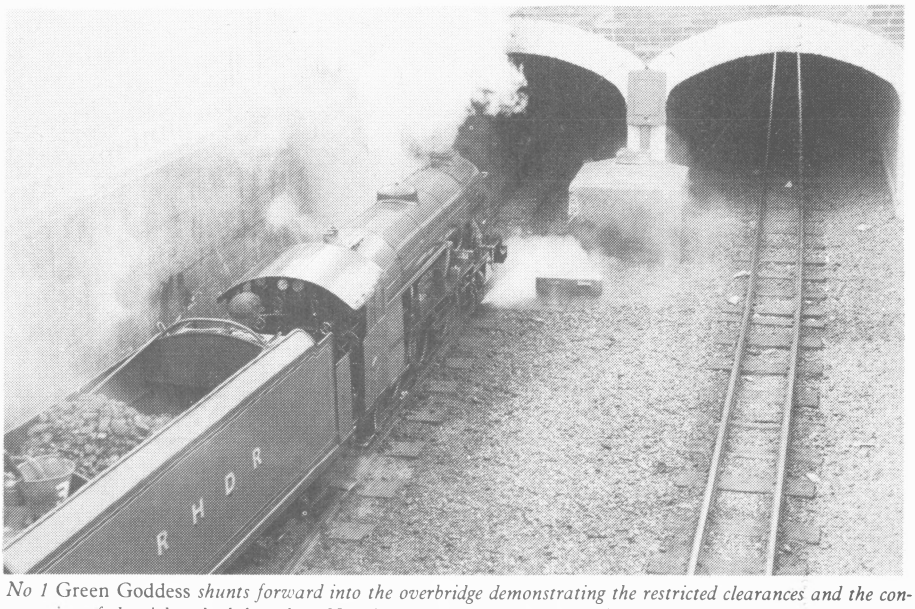


No 3 Southern Maid *and No 7* Typhoon *together at the northern end of New Romney station. Notice the way in which the staff can actually peer in over the top of the engine without any difficulty.*

The model

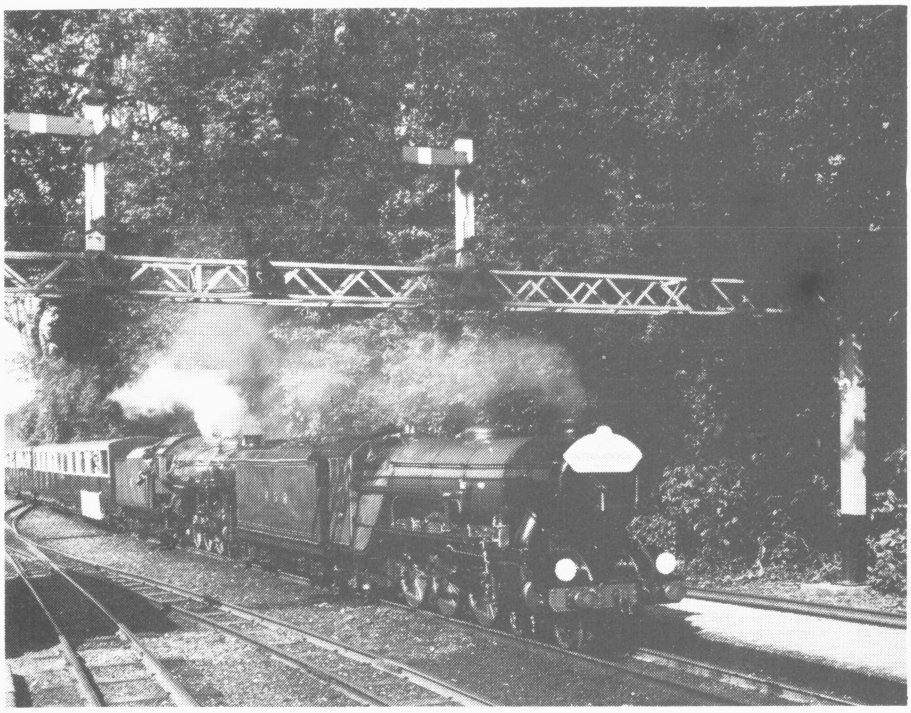
Turning now to the modelling potential, a gauge of 15 inches gives rise to some interesting possibilities. In 7mm scale, the 9mm width of N gauge is almost spot on, but a more challenging task might be to work in 4mm scale and use Z gauge. Z gauge is 6·5mm, which scales up to about 19½ inches, but this is probably acceptable. The full size locomotives are ⅓ the size of their prototypes although the track gauge is little more than ¼; in other words, a 'scale' track gauge on the RH & DR would indeed be about 19 inches. Using this scale/gauge combination for the model, it becomes possible to reproduce the entire line in a space of 7ft 6in square.

Perusal of the Marklin Mini-Club catalogue shows that a 4-6-2 Pacific (no 8885) is indeed produced. An essential modification would be the rebuilding of the tender to accommodate a 4mm scale 'driver', but otherwise it could be used almost as it



No 1 Green Goddess *shunts forward into the overbridge demonstrating the restricted clearances and the construction of the eight wheeled tenders. Note buckets, cleaning gear, and fire irons on tender top.*

A general view of Dungeness station and Romney Marsh from the old lighthouse which gives an idea of the rather desolate terrain that surrounds Romney.

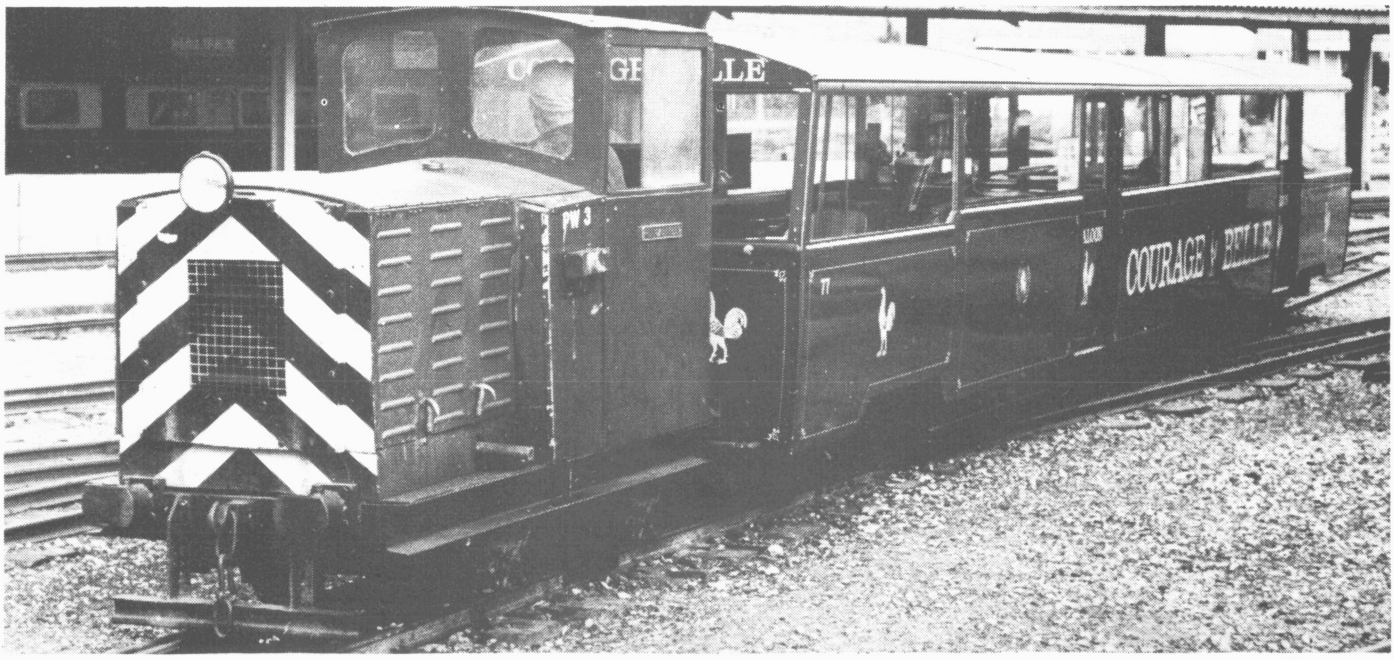


stands to represent no 11 *Black Prince*. With varying degrees of alteration, the same model could be rebuilt to represent the Canadian and British 4-6-2 prototypes, but for the latter a scratch-built body might be preferable. An 8-coupled chassis is also available, and this could be used for the 4-8-2s. Coaching stock is more problematical, and it would be necessary to purchase the bogies and scratch-build the bodies. The Mini-Club range includes 4 wheeled wagons whose underframes could be used for the luggage vans.

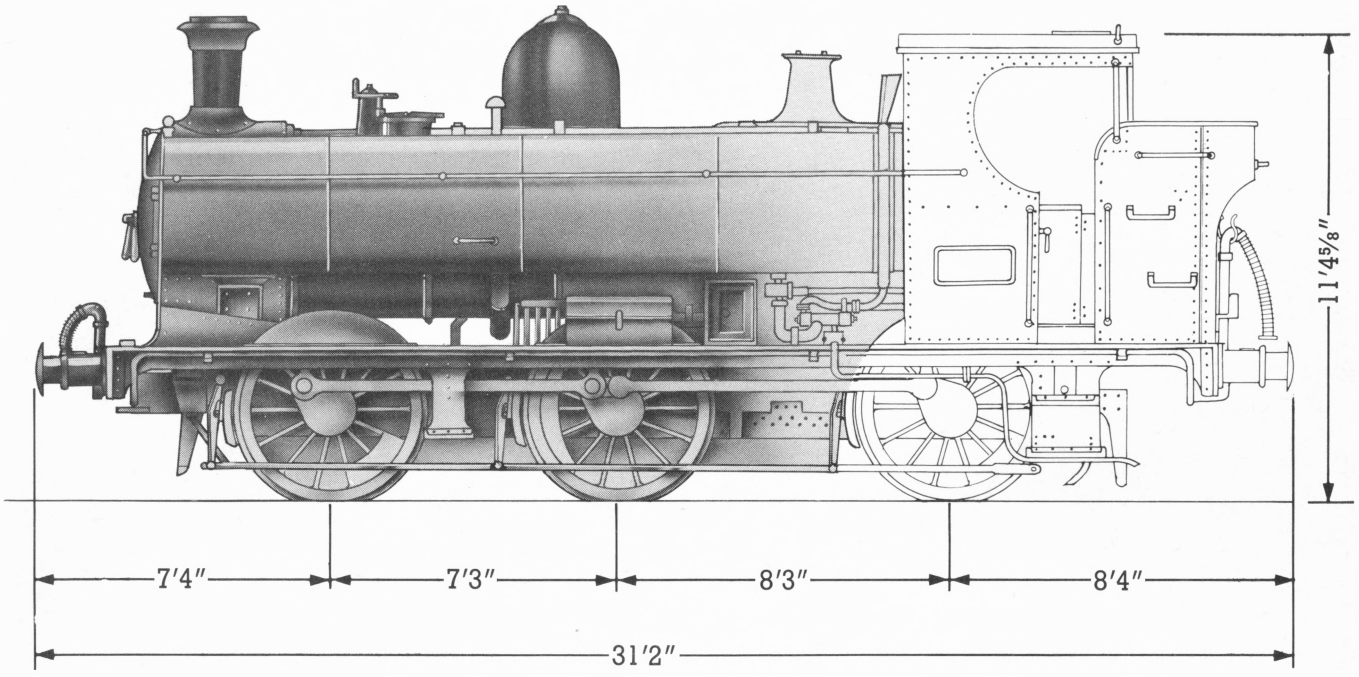
A four coach train with locomotive would thus occupy a space of about 2 feet, and this train length has been incorporated in the plan which includes virtually all the trackwork of the prototype. How desirable this would be in reality is a moot point; the cost using commercial models would be considerable, but simplification is easily undertaken. This would permit the layout to be fitted into a smaller space or, alternatively, part of the former BR branch could be included to emphasise the difference in size.

Further details of the RH & DR may be found in the Company's official guide book (50p) or a full length book by W.J.K. Davies published by David and Charles. A detailed description of the British Rail branch appeared in the February 1967 *Railway World*, and a drawing of the BR station buildings at New Romney was published in the September 1961 *Model Railway Constructor*.

Above: *The 'International Special' goes flying past. So much interest has been aroused by this line, that companies sometimes hire the trains for special outings, so that named trains and specials can be run just as on full-size lines. This was a shopping special organised by the International Stores Group.*
Left: *An engine train headed by PW2 – complete with seats! This is one way of making sure that passengers choose alternative seating.*
Below: *Anyone for a drink? The PW3* Red Gruntler *shunts the* Courage Belle *bar car. Let's hope that the bottles haven't been scaled down to size!*



COLLETT'S MODEL PANNIER.



MAINLINE RAILWAYS

In 1929, Collett created the ultimate pannier tank, the 57XX Class.

Because every part had been tried and tested it eliminated the snags of the first pannier tank locos.

Mainline's 0-6-0 57XX Class loco is, likewise, the very model of pannier tanks.

Every detail has been faithfully reproduced from Collett's own blueprints.

The main body alone has twenty-six separately-fitted details, excluding seven different metal handrails.

Even the brake rodding and ash pan are true to the prototype.

The cab is typical of the early pannier tanks with glazed, round spectacle windows and a low arc roof.

Correct daylight can be seen under the boiler, which has detailed boiler bands and a water balance pipe.

Ask to see Mainline's 57XX pannier tank at your nearest Mainline stockist. It's as welcome an improvement on early pannier tank models as the 57XX was in 1929.

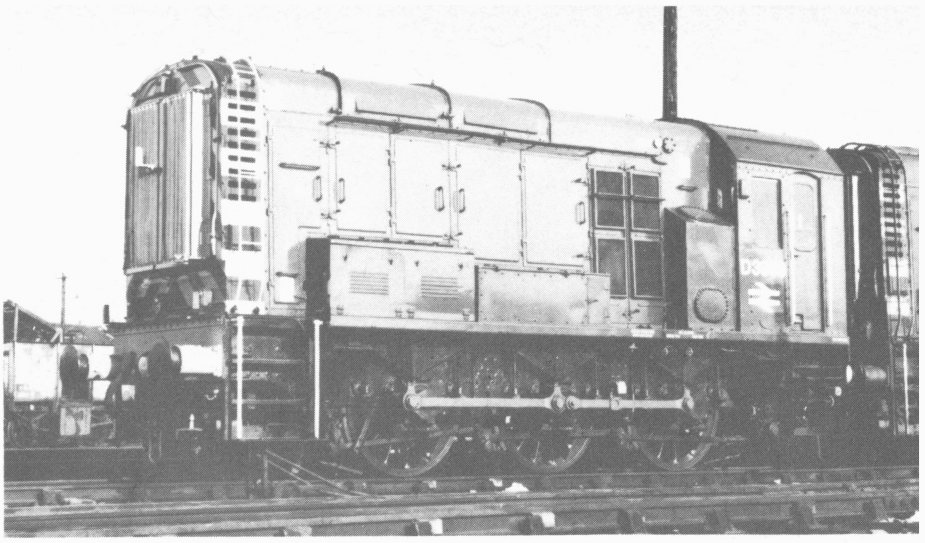
Palitoy®

Focus on the BR Class 08s

Standard BR shunter in a pictorial review of details and variants for modellers

The standard BR shunter is so familiar that most enthusiasts hardly give it a second glance. Lima and Wrenn both make very good likenesses of this famous type for 4mm scale and of these the Lima model has the edge in price and 'convertibility'. There is a Hornby model too, in 4mm scale, and a Grafar version in N scale. However, both of these lack the correct outside frame chassis.

As these pictures show, 08s are by no means all alike either in fittings or finish.

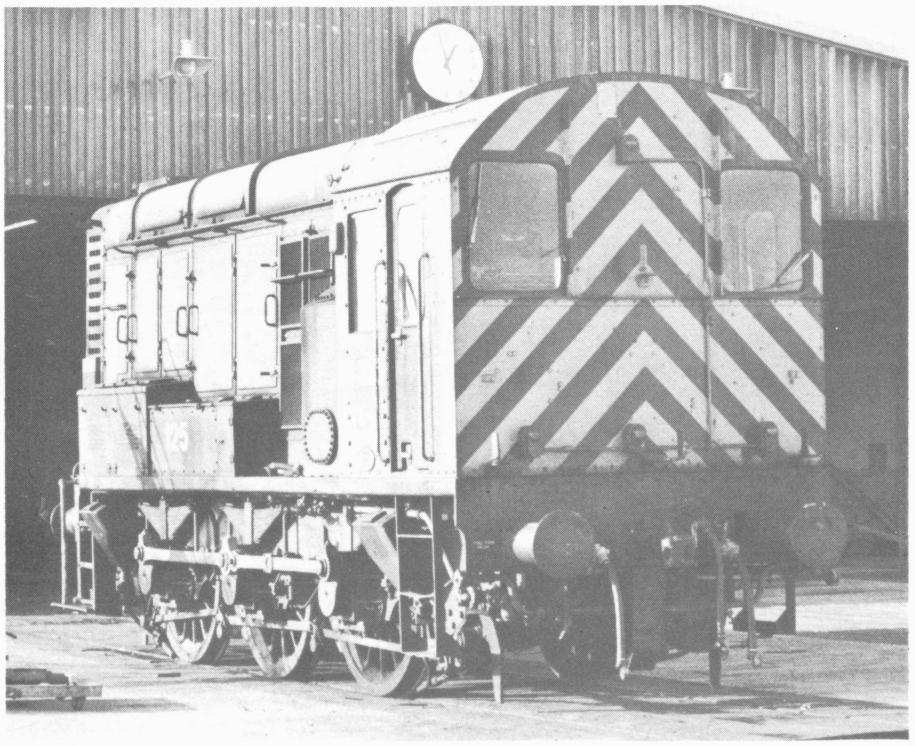


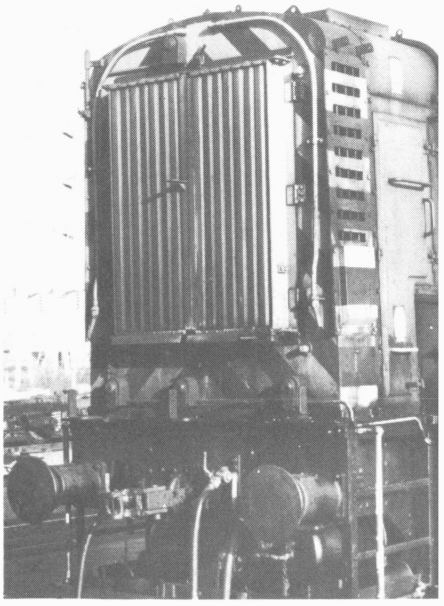
Above: *About 1968, D 3993, is resplendent in the freshly applied Rail Blue livery and still retains the ladders flanking the radiator filler cap, then positioned on top of the hood. Ladders were painted yellow. Note positions of overhead warning signs, two by the ladder and one by the cab. This loco lacks the box forward of the cab but has the later type of metal door. D3993 was subsequently renumbered 08 825, but note that renumbering did not follow original number sequence. Note the lamp iron on the centre frame of the radiator – not a universal fitting (Locophoto).*

Left: *The old livery lingered on well into the 1970s on some 08s. Here we see 08 529 with standard style of number and data panel, but still in the BR green colour with the BR totem in April 1977. Side rods were probably red, though the paintwork is somewhat faded and dirty on this loco. Note early type of panelled wooden cab door, but the extra side locker is fitted as on the Lima 00 model. No 08 553, beyond, is in Rail Blue finish and lacks this locker. Note different positions for the overhead warning signs on the cab rears – high on 08 529 and between the windows on 08 553.*

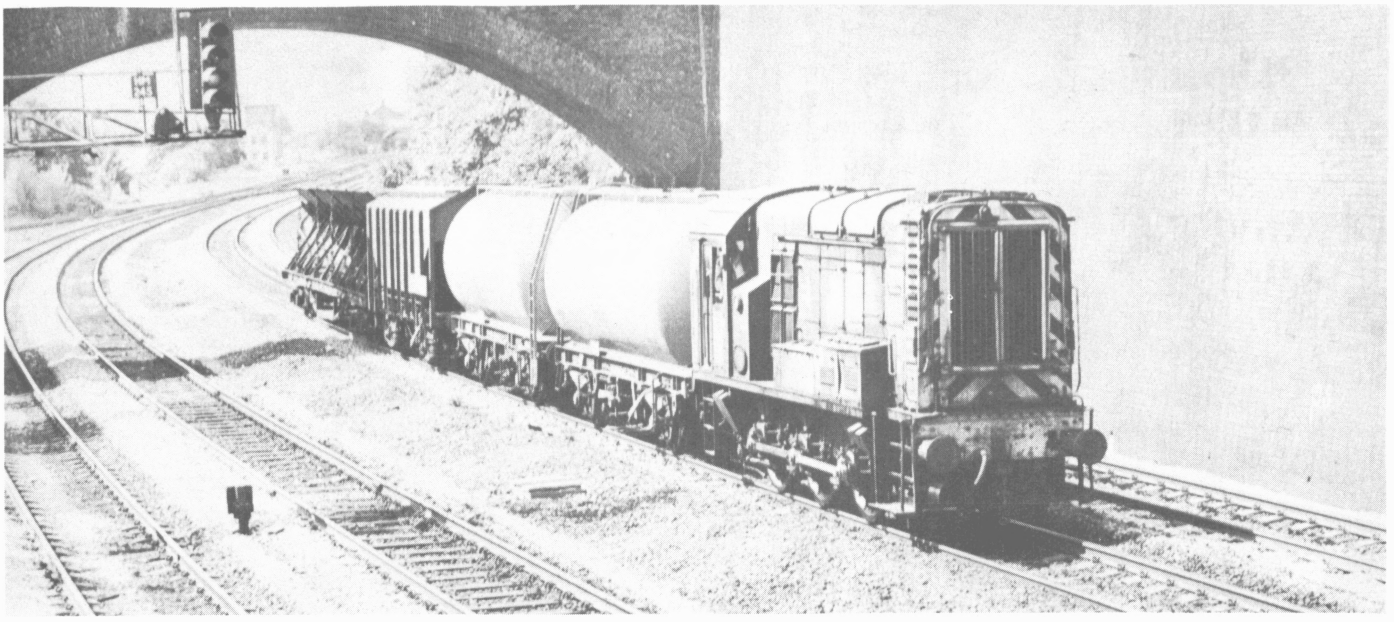
All photos by John Chalcraft unless otherwise noted

Below: *Here is the 'prototype for everything' department providing a unique 08 which has 'buckeye' automatic couplers instead of conventional screw couplers. A clue to the reason for this is given by the number 125 painted (slightly crooked) on the side box, for 08 825 is the pilot loco for St Phillip Marsh HST depot at Bristol. The HST cars all have auto couplers and 08 825 is used for making up and moving HST stock at the depot.*

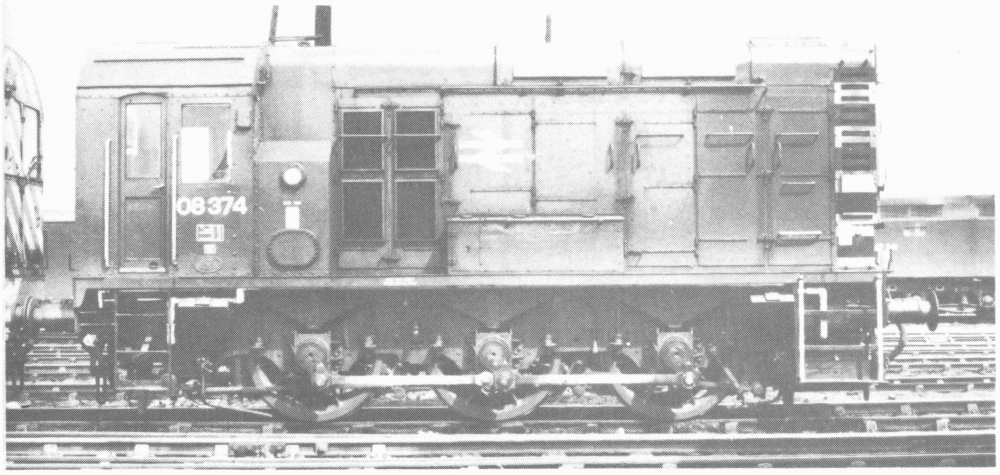




Above: *Close view of the front end of 08 825 clearly shows the 'buckeye' coupler and other front detail. Note for example the original supports for the ladders at the top of the hood. These supports are still in place on many 08s, though on others they were removed with the ladders. Kaddee couplers would duplicate the 'buckeye' arrangement in miniature.*

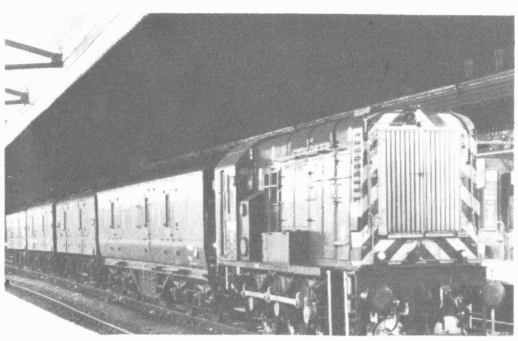


Above: *The smallest of layouts can reproduce this working in virtually every detail. Here we have an overbridge, plain retaining wall, and sharply curved track as found on many a small layout. No 08 162 is leaving Healey Mills yard on a trip working down the line with a short freight train consisting of only two tankers, a covered grain hopper, and a flat wagon with a special load. Class 08s are much used for trip working between yards and even a basic train set oval with two or three sidings can be used to duplicate this sort of operation from siding to siding around the oval and with much sorting out between the sidings – a good way to get lots of train movement in a minimum space.*

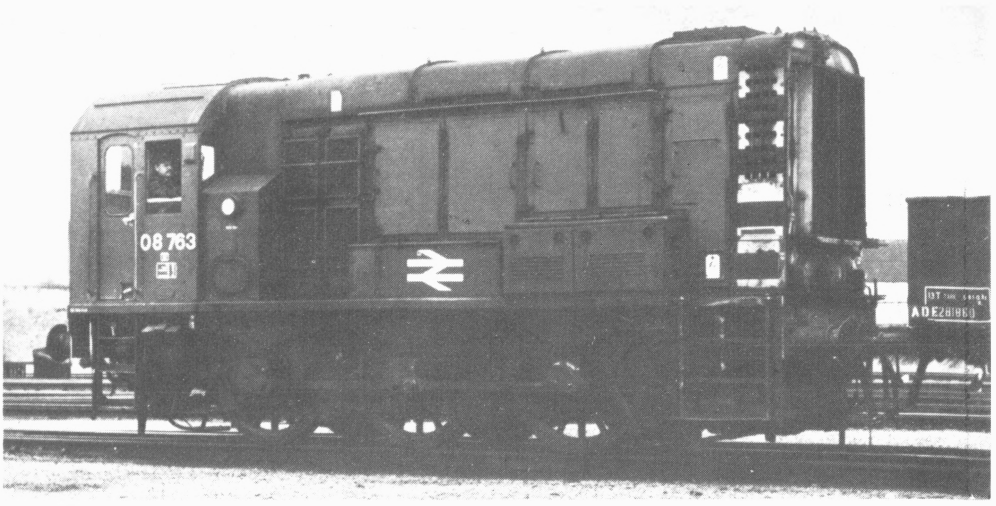


Left: *This dead side view is only just a little over 4mm scale as printed and gives you a good opportunity to check 08 374 against the Lima (or Wrenn) model. The earlier panelled door is fitted here and it will be seen that the cab side window needs slight widening. The front side handrail should be completely removed from the Lima model and sand pipes (from Microrod) could be added to holes drilled in the sand boxes. Hand rails are needed on the front steps (Phil Picken).*

Below: *The recently abandoned parcels service on BR gives modellers another opportunity to operate short trains which follow prototype fashion. Here 08 640 has just marshalled a parcels train at Reading consisting of three CCTs and an ex-LMS parcels van – a close copy of this entire train can be duplicated from available Lima models. It now waits to move off to the parcels bay where the vans will be loaded – this is in November 1979, late at night in the deserted station. 08s (or 09s in the south) were widely used to marshall parcels train stock at the larger parcels depots. Note that this loco has had the front ladder supports removed.*



Below: *End of the road for two Scottish Region 08s which found themselves at BREL Swindon with withdrawn* Western Glory *in January 1977, waiting to be cut up or cannibalised. Many 08s are being withdrawn as freight business has contracted in recent years. These are 08 316 and 08 143 with side rods and buffer beam pipes already removed. 08 316 has its data panel superimposed over the BR logo – unusual – while 08 143 has the logo on the side box instead of the hood. Overhead warning signs also differ (G. Scott-Lowe).*



There are many small detail differences in the 08 and 09 classes. At Haymarket, Edinburgh, on August 18, 1977, is 08 763 which is a close match to the Lima model, complete with plain door, so requiring minimal changes to the body moulding if this is chosen as the model subject. In case you don't spot it, this loco lacks the small handrail ahead of the spectacle plate which you'll find moulded on the Lima body.

From 09 to 08

Ian Futers works on the Lima model—and converts it also for EM or P4.

Since its introduction to the market, the Lima Class 09 Diesel Shunter must have sold in its thousands. Because of its relatively low cost many modellers seem to have purchased at least one and I'm sure for many younger modellers this particular locomotive has been their introduction to the hobby.

It is now quite a common sight on club layouts which can be seen at any number of exhibitions. From all accounts, they seem to work well although I have heard some people say they cannot get them to run slowly. To them, I would suggest it could be their controller. The two examples I have can crawl about my layouts at a very slow pace indeed. In actual fact, on my Lochside Branch their job is to do just that, marshalling wagons and vans when the need arises. As a matter of interest, I utilise both ECM and Digitol Controllers rather than a more standard H & M or Hornby type.

However, I have yet to see on the exhibition circuit a detailed shunter, and I hope this article will assist modellers to remedy that statement. Although my two locomotives have been re-gauged to suit my own particular aspect of 4mm modelling, namely P4 standards (ie, track gauge of 18.83mm instead of the more commercial 00 gauge 16.5mm) there still remains much detail work to do on the bodywork. Very simple tools are needed for this conversion work: a sharp craft knife, handrail wire (and handrail knobs if preferred), some small drills, and that's about it.

The Lima model is numbered as an 09 which strictly speaking makes it a Southern Region loco. However, externally 09s are the same as 08s (yes, there are detail differences in both 09s and 08s, but that is another area of study and discussion). With so many 08s produced you need to find your chosen prototype and detail accordingly. In my case, the first step was to pick out a particular locomotive to model. As my interest is strictly Scottish Region this limits the field somewhat. To take it one more step, I usually model locomotives allocated to Eastfield Motive Power Depot. This is because one of my areas of research is the West Highland line from Glasgow to Fort William. I always prefer to have models of locomotives which I have records of traversing particular lines. So my two 08s are Eastfield based locomotives.

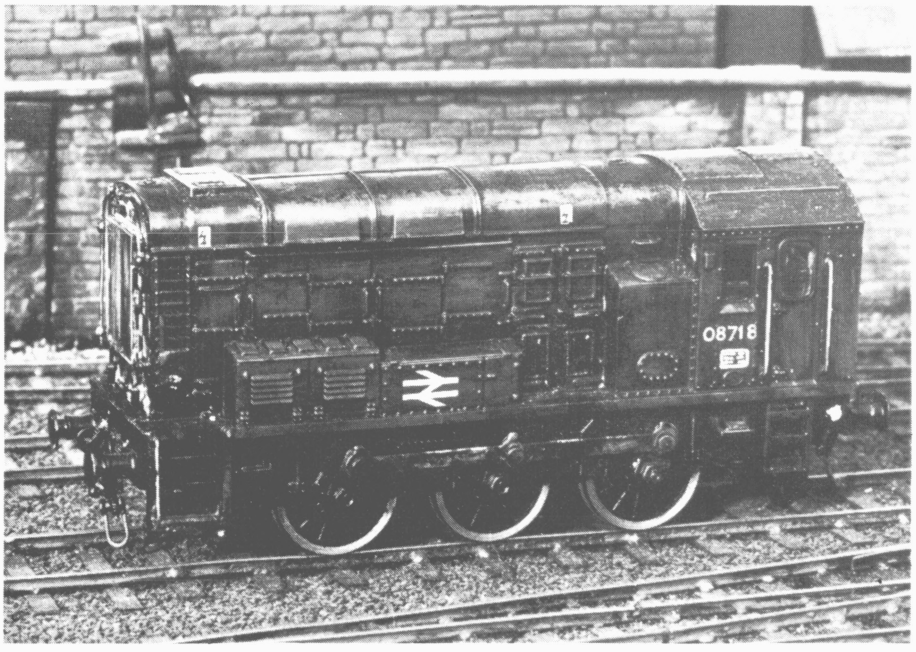
The next step is to have seen the locomotive (or locomotives) you intend to model and if possible have photographs of them. I am fortunate in having quite a number of photographs although at the time of re-building 08 718 I did not have a photograph of that locomotive. Nevertheless I pushed on with the bodywork.

All the plastic handrail mouldings were carefully removed with a craft knife blade. Care was taken not to cut deeply into the body. It's best to remove fine slivers at a time. Remember, you can take plastic off that's there, but you will have a harder job replacing any plastic you cut off that is required. I always remove the body from the chassis at this stage in case any odd bits of material get into the works. Fine holes were drilled where handrails went into the body, and new wire handrails were formed and then fitted into place with a touch of Cyno adhesive.

The plastic buffers were cut off and these were replaced with cast white metal buffers of a suitable size. Again Cyno was used to fit them in place. As I use three link couplings as standard on my models I drilled small holes in the buffer beam and then opened them out to take the new couplings. However, a cast white metal coupling pocket was fitted over the new coupling hole. Further holes were drilled in the buffer beam and vacuum pipes were fitted. I don't fit all the pipework on buffer beams, just enough to create the atmosphere. It's difficult enough as it is coupling up three link couplings without having the added problem of the links getting caught on all that pipework. Choice of couplings obviously depends on your own preference. Retaining the tension-lock coupler will also limit the addition of pipes.

I then concentrated on the cab, especially the back windows. These I opened out wider by cutting them nearer the edge, care being taken not to remove too much at a time. The corners are then rounded off and the worst job of all commenced – the fitting of the flush windows. Clear plastic sheet was cut near the

Despite being one of the simplest and least expensive models on the market, this little diesel shunter can be turned into quite a showpiece of scale appearance, as evidenced by 08 718 which also has the side lockers removed as described in the text. Note the droplight in the side window, a little touch which adds greatly to the realism.



size of the windows, and then they were filed to shape. As a result they were a push fit into the window space, but a small drop of Cyno keeps them in place. Wire windscreen wipers were shaped and soldered together before being placed into position within small drilled holes. The other windows for the cab sides and cab door were also cut out, shaped and fitted. The cab windows are open a little way.

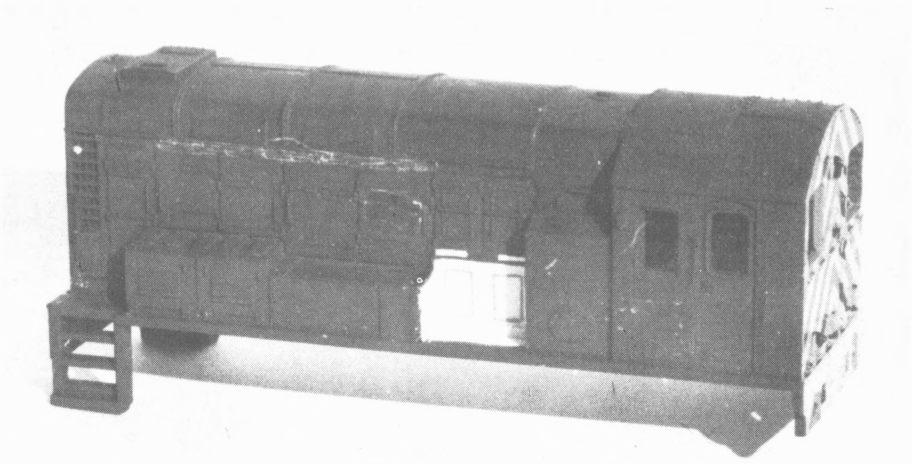
In the matter of cabs watch the doors. Both 09s and 08s have at least two door patterns, the type modelled by Lima or a panelled version with squared corners to the windows. If your chosen loco has the latter type you'll need to alter the model accordingly.

On the top of the bonnet, two small pieces of plastic rodding were cut and glued in a central position within the two front portions of the bonnet. This was a feature I noticed on 08 shunters after seeing some overhead photographs of the bonnet. I assume they are simply parts of the framing.

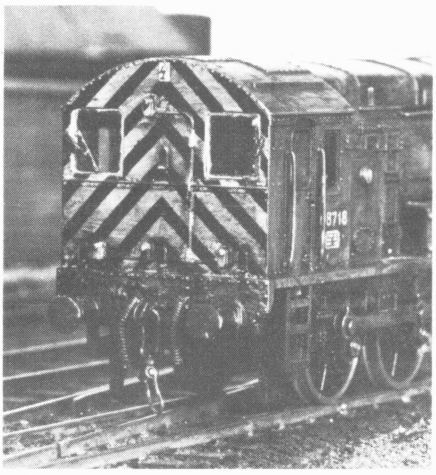
The only other bodywork to be covered was the cutting away of one of the cupboards or boxes on the side of the footplate. I did this by drilling holes in the portion to be removed and then cutting it away with the craft knife. Some 08s have this section removed, some don't. I can only hope 08 718 has this feature, although my model is going to be re-numbered as 08 851 as this locomotive is now the yard pilot at Fort William. My other shunter, 08 952 actually has all its bodywork as the Lima model portrays so she was left alone. The new bodywork was fabricated from pieces of plastic sheet, small detail being added with plastic rodding. Again, I cannot stress enough that the use of photographs is invaluable in order to create the correct bodywork.

The next stage is the painting. I sprayed 08 718 Rail Blue, but brush painted 08 952. Once they are dirtied, it is difficult to tell them apart. I was careful not to paint over the yellow and black warning stripes on the front and rear. I touched up the parts I'd cut off on the bonnet front. Rub-on Kingprint BR symbols were added, and rub-on numbers placed on the cab sides. Power classification transfers of the waterslide type were also placed in position under the numbers. Overhead warning plates were also added. Once the transfers were secure (I gave them a small touch of clear matt varnish, just to make sure they stayed in position) the weathering of the locomotives took place. I am often asked how I do this, and really it's quite simple, it just takes courage. I repaint the whole of the locomotive again, side by side, end by end in ordinary matt black. But before it can dry completely (that's why I do it bit by bit) I rub off as much as I want with a tissue. If you don't get the desired effect first time round you can try again. When I am satisfied with the result I leave it to dry for a day or two. After that I hunt out some old tins of matt brown, matt fawn, matt white and commence streaking the body. It's best to use the dry brush technique here. You dip your brush in the paint, then wipe most of the paint off on a rag and then paint the parts you want to. By looking at photographs and actual locomotives you can find which parts to 'streak'. Hinges get rusty, so small dabs of brown paint are utilised. You can mix any dirty type colour you like when weathering your locomotives. Well, let's face it, how often do you see a really clean diesel shunter? Usually only when fresh from overhaul and a repaint.

If you model in 00 gauge (16.5mm) as most

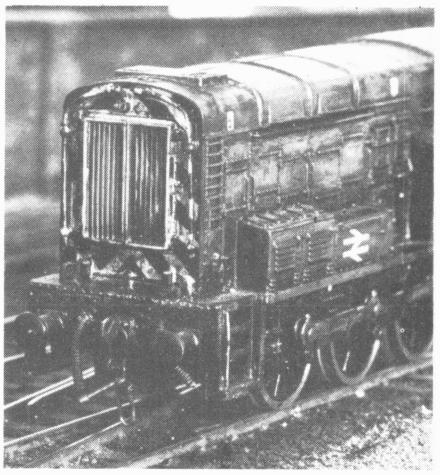


The body under conversion. The moulded handrails have been cut off ready for new wire versions, while the side locker has been removed and the body area has been made good with white plastic card, having the panel detail scribed on to it before it was cemented in place.



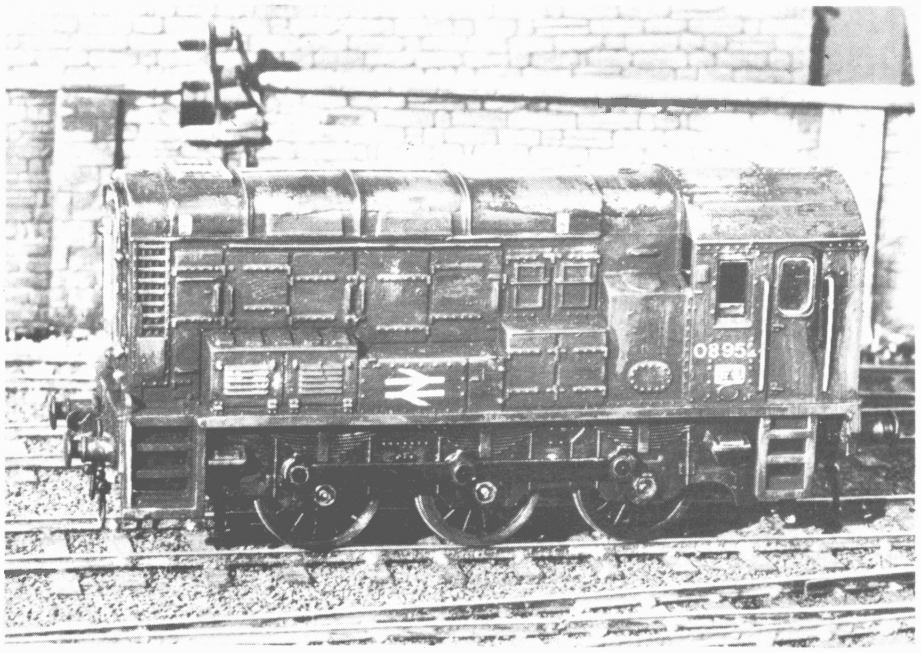
This close view of the rear end of the completed model is worth close study. Note enlarged windows, handrails, screen wipers, new buffers, piping on buffer beam, and screw couplers. Compare with the 'as new' model from the box to see what a difference these changes make. Note data panel below number. This model is also converted for running on Ian Futers' well-known Lochside P4 layout which has been seen at several exhibitions.

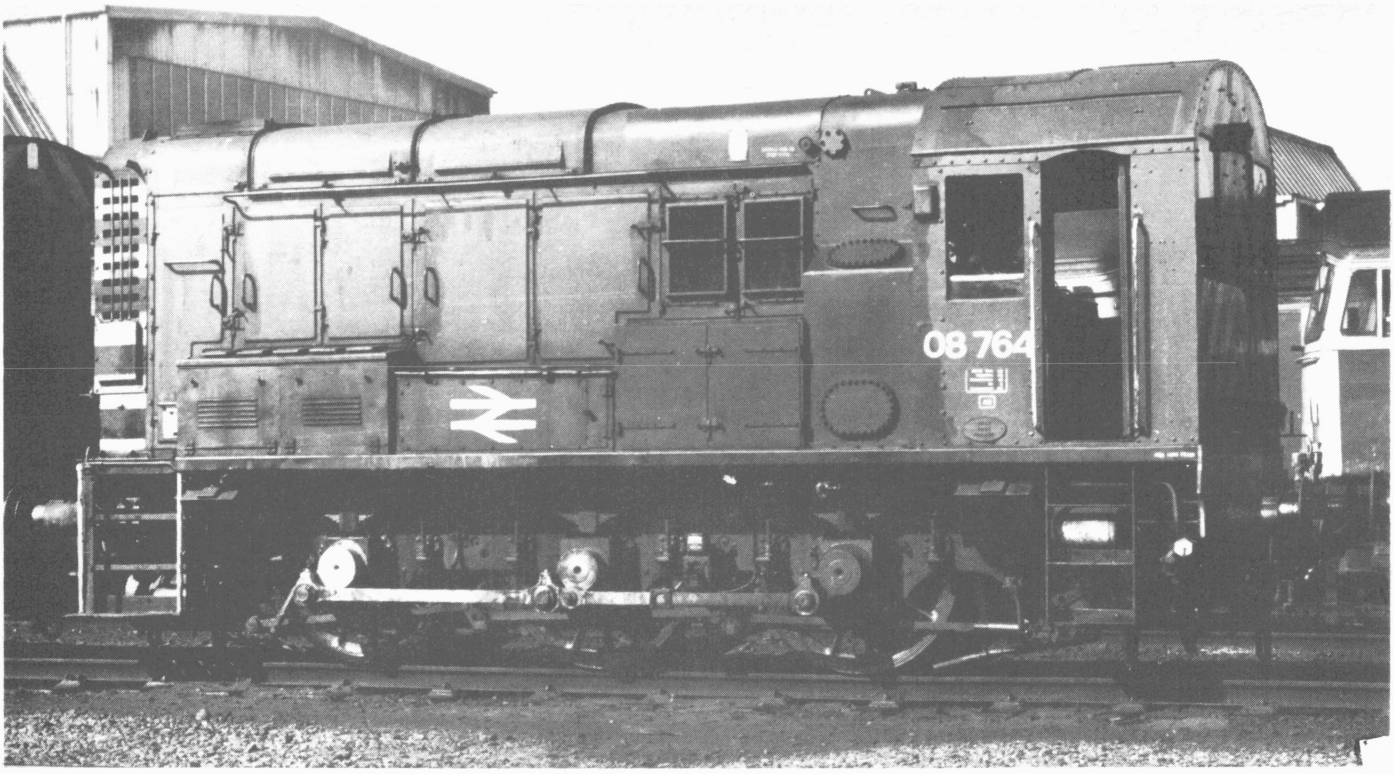
Prototype photographs by Ian Futers
Model photographs by Alan Cook and Ian Futers



Front end view shows new handrails and the much weathered and dirty finish.

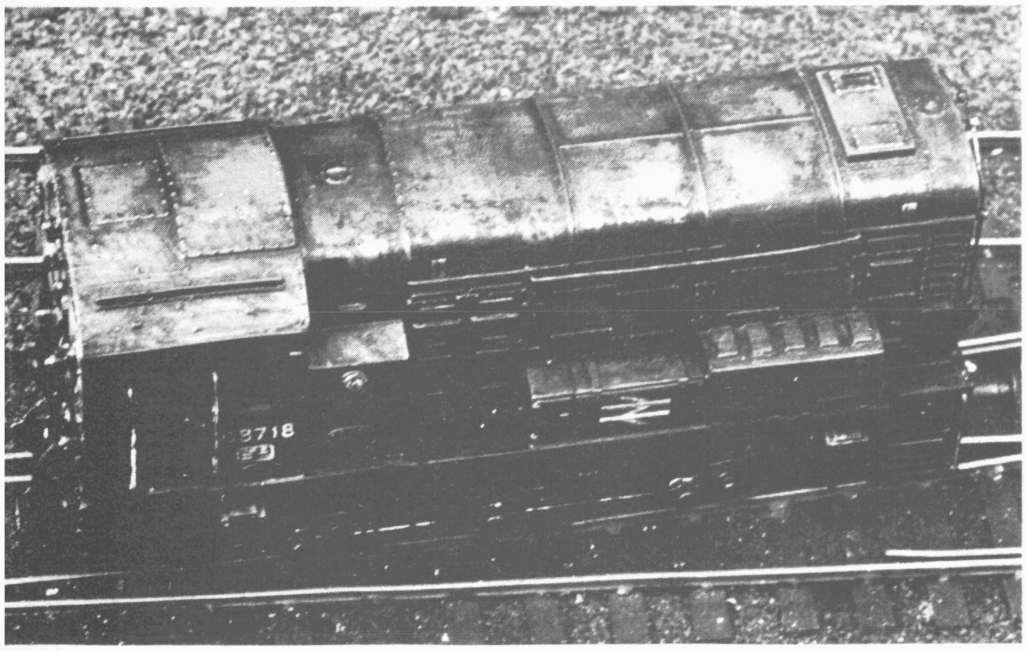
Second model described here has its lockers intact. Note flush fitted cab windows and the droplight in the cab side. Compare 08 952 with 08 716 on opposite page.





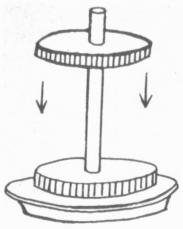
Above: *An excellent view of 08 764 at Eastfield, Glasgow. Small details are well shown, including fuel tank filler below rear end of footplate.* **Right:** *Awaiting repairs at Eastfield is 08 346 showing the panelled door variation and front lockers removed. This is a number not to choose unless you wish to alter the Lima body moulding to match. Date is August 12, 1977.*

people do, you can simply screw your body back on to the chassis and off it goes. If you model EM gauge (18mm – 18.25mm) you will have to take the wheels out of the chassis and re-gauge them to the correct back to back measure (which by some strange twist is actually 16.5mm). Taking the two screws out of the keeper plate, you will find the wheels simply drop out of the chassis. By unscrewing the crankpin nuts you can remove the coupling rods. The wheels can then be pushed out carefully to the correct gauge. Once everything is replaced, it should run satisfactorily after you adjust the pick-up collectors. I say *should*, because I have not tried this conversion, as I do not model to these standards.



Left: *The only roof alteration necessary is to insert two pieces of plastic rod at the centre line of two panels on the front end of the bonnet. Note the very realistic wear and weathering in the finish of this model – done as described in the text.*

Because I model to P4 standards, I had a friend turn down the Lima wheels in his lathe. The wheel profile is different, much smaller, as the photographs shown. The wheels as purchased on the locomotive are much thicker over the flanges. After my friend Ian Cross had re-profiled the wheels he returned them to me (no pun intended there!). On replacing them in the chassis, the gear wheel did not line up with the cogs on the motor. Not being too sure on how to deal with the problem because the cogs on the motor cannot be placed in any other position than where they are, I decided to experiment with the gear wheel which is attached to the



Right: *Underneath view shows the P4 conversion with turned down wheel flanges and the use of a second gear wheel doubled up with the original in order to mesh with the motor.*
Left: *How to do it – an extra gear wheel from a spare wheel set is pushed down the axle close up to the original gear wheel which is moulded to the wheel.*

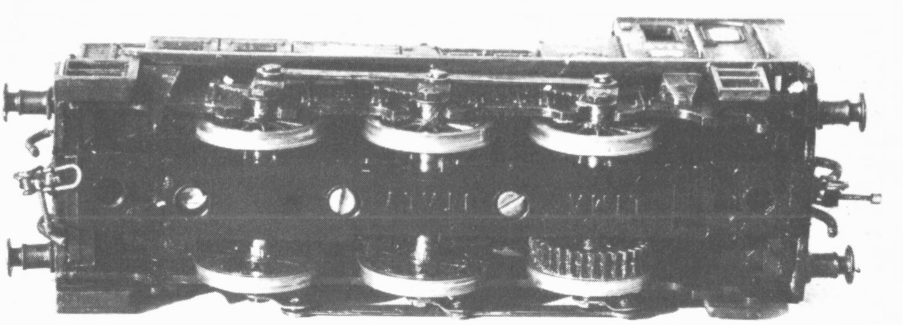
driving wheel. Because the wheels have been pushed farther out on their axles, this gear wheel will not mesh with the motor gear wheels. In the end I simply added an extra gear wheel, carefully removed from a spare set of driving wheels, and using Cyno, placed it over the gear wheel on the driving wheel. Still with me? I hope the drawing makes it plain, because it may be necessary to do this with an EM version. Anyhow, it works, and the driving wheel meshes quite nicely with the motor now. I also altered the pick-ups. A small piece of copper clad was fitted on to the chassis (using Cyno glue again) and fine phosphor-bronze strip lightly touches the tops of the wheels. I pick up on all six wheels and apart from gathering quite a bit of dust and dirt, it is very effective. As I always clean the motors on all my locomotives after (or just before) exhibitions, the pick-ups remain clean most of the time. I covered the large cast weight with insulating tape in case it touches any of the pick-up wires which so cause a short circuit.

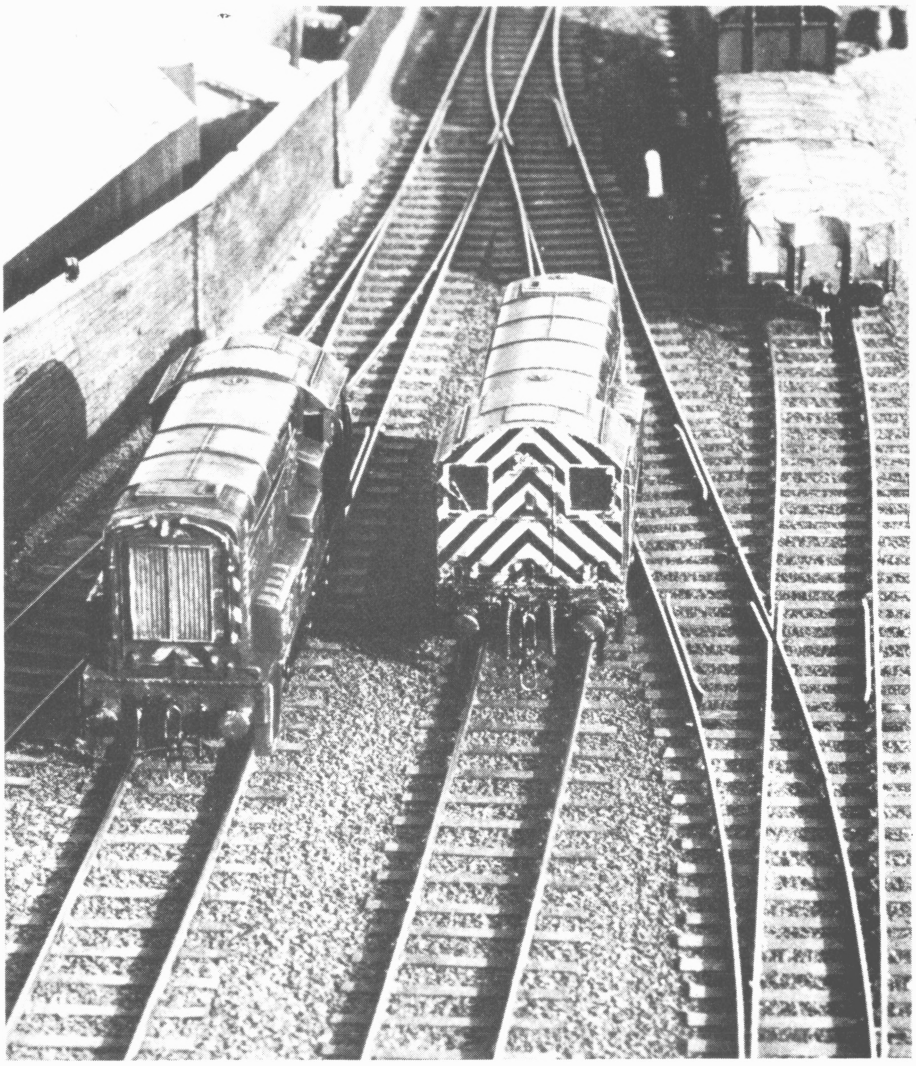
So there we have it, more by good luck than good judgement some would say. But it works and works well, as people who have seen the locomotives running at exhibitions will agree I'm sure. Both the shunters will negotiate B6 crossings with ease, and both are very slow running. Mind you with all the work they get on Lochside they have put in quite a few actual miles. A well run-in locomotive will always respond to the controller as long as it is maintained.

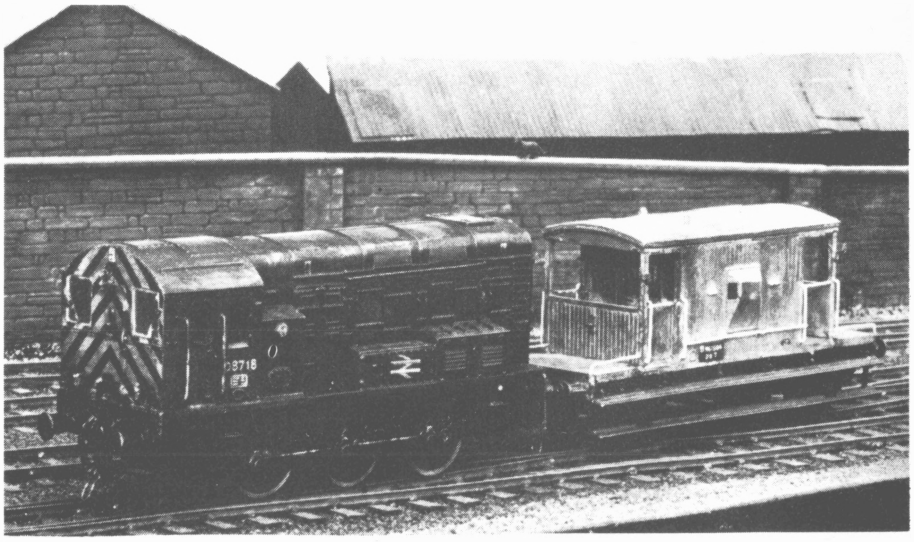
Finally, if any readers would like to know more about modelling in EM or 18.83mm, a letter sent to either of the two societies below will bring details about that aspect of railway modelling, and of course an invitation to join and participate in the societies.

The EM Gauge Society,
The Secretary,
428 Bedonwell Road,
Abbey Wood,
London SE2 0SE

The Scalefour Society,
Membership Secretary,
31 Manor Park,
Clyst St Mary,
Exeter EX5 1BW

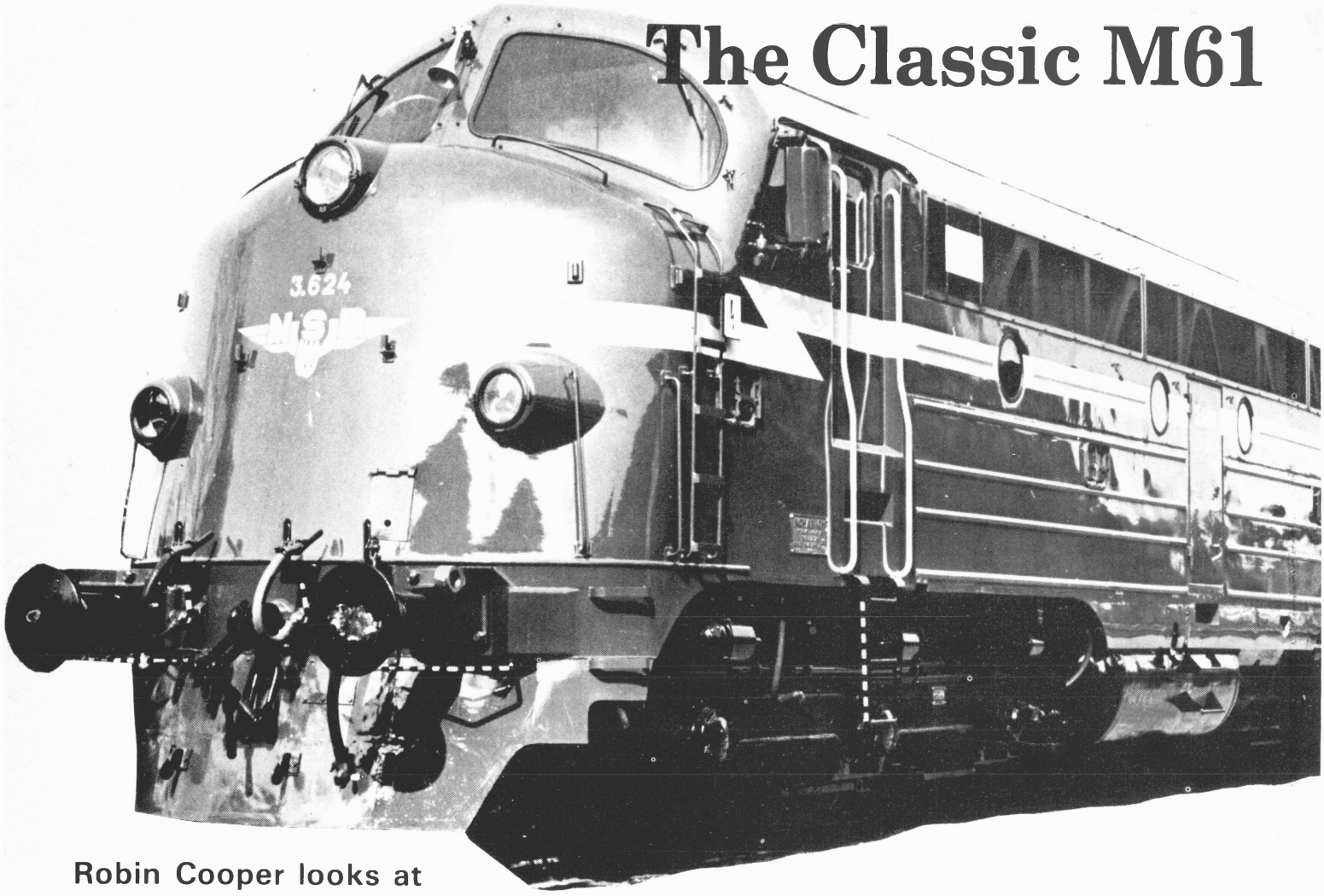






Above, centre: *The two 08s resting at Lochside between shunting spells. The models are re-gauged to 18.83mm, and dummy screw couplers are fitted. Track is to P4 standard, hand laid with wood sleepers, copper rivets and fine scale rail, achieving the high degree of realism with such fine standards.*
Right: *08 718 shunts a BR brake van which is from the standard Airfix kit with P4 wheels and cast buffers fitted. For ordinary 00 gauge the Lima wheels and chassis are left unaltered on the basic 08/09 model.*

The Classic M61



Robin Cooper looks at the EMD European diesel loco that is a familiar shape to all modellers

After the Second World War, every railway in Europe had steam locos that needed replacing. Although they continued buying new steam locos, America had shown the way ahead with diesel power.

General Motors had sold their F series diesel-electric locos throughout North America. They would have gladly exported the same design to Europe, except they were too large to work there, being outside the usual European loading gauge limits. General Motors realised they would also be more likely to sell their locos in Europe if they were built locally. They therefore designed a new version of their F locos for European service, which they called the M61. The power unit was American, but the bodies and transmission were built in Europe. Major participants in the M61 programme were Frichs of Aarhus and Nydqvist and Holm of Denmark. Bofors Nohab and ASEA of Sweden contributed to the programme, and a special consortium was set up in Belgium, called Anglo Franco Belge de la Croyère (AFB). Many other European firms were also involved.

The M61 described

The M61 loco was just over eighteen metres long, and had a cab at either end, with a hood in front. Different versions had various arrangements of headlights on the bonnet to suit customer requirements. The body consisted of a girder main strength framework covered by sheet metal. Below the roof was a metal mesh to permit motor compartment ventilation. Styling closely followed that of the EMD F series in production in USA. The body was carried on two six wheel bogies (or trucks), and there was a fuel tank between the bogies. Like the American F locos, the M61 was powered by a two-cycle GM 567C motor, driving a generator which supplied current to truck mounted traction motors.

M61 locos built in Scandinavia had round buffers, whereas AFB built locos had square cut-aways on the buffers above and below. Scandinavian M61 locos had entry ladders with tapered sides, whereas the AFB ones had vertical sides.

The M61 in Belgium

Societé National des Chemins de Fer Belge (Belgische Spoorwegen), has one of the world's densest rail networks. Besides carrying transit loads between neighbouring countries, Belgium has considerable heavy industry. In southern Belgium there are short, hilly routes.

SNCB bought forty M61 locos from AFB between 1958 and 1970. SNCB group these locos in three classes: 52, 53 and 54. The first two classes are almost identical, but class 54 is more powerful. In the mid 1970s SNCB renumbered their locos as follows:

Class	Old numbers	Current numbers
52	202 001 to 013	5201 to 5213
53	203 001 to 019	5301 to 5319
54	204 001 to 008	5401 to 5408

There are detail differences between members of each SNCB class, particularly in the way the lights are arranged on the nose. Belgian locos are painted dark green. Some M61 locos have one yellow stripe along the body side, others two.

The old SNCB badge of a winged wheel was carried on the nose of some M61 locos, but many carried no badge. Today, many SNCB locos carry the new company logo – a 'B' in an oval on the front. Enthusiasts wishing to model a particular prototype are advised to consult photos.

Six firms sell models of the Belgian M61. In HO scale you can buy models from Fleischmann (4270 and 4272), Märklin (3066) and Piko (5/6001). For TT, Berliner-Bahnen produce a Class 52 (2533). Minitrix produce a M61 in N gauge (2019). In N gauge, Piko also make the Belgian M61 (5/4111). The numbers in brackets are catalogue numbers – useful if you are buying from a mail order firm.

The M61 in Luxembourg

Luxembourg has close economic ties with Belgium. However, the Societé National des Chemins de Fer Luxembourgeois is autonomous. SNCFL bought four M61 locos from AFB, numbered 1601 to 1604. The first loco was delivered on April 2, 1955. These four locos were painted bordeaux red (RAL 3005) and have two yellow bands (RAL 104) along the side. These locos are used for passenger and freight services. They differ from Belgian

M61 locos in having a square meshed grill over the windscreen as a protection from stones.

No commercially made models have been offered in SNCFL colours but it should be easy to modify one of the other proprietary models.

The M61 in Denmark

DSB (Danske Statsbaner) bought five 1700 hp locos numbered Mv 1101 to Mv 1105 from Frichs of Aarhus in 1954. Two years later DSB accepted another 54, numbered from My 1106 to My 1159. The My series locos had up-rated motors of 1950 hp. Locos of classes Mv and My are outwardly identical, and motors are often exchanged between overhauls – so a particular loco will change from class Mv or My. Danish M61 locos differ from all others that only the outer pair of wheels have traction motors. So Danish locos are properly A1A - A1A, whilst all other class M61 locos are Co - Co.

As first delivered, DSB locos were painted maroon, with a yellow waistband and stripe along the body bottom. On the nose was the company badge – a pair of wings surmounted by a crown. There are still a few locos around in this scheme.

You can buy HO scale models of the maroon DSB loco from Fleischmann (4271), Märklin (3067) and Piko (6/6002), and in N gauge from Minitrix. For TT Berliner-Bahnen offer the My version (2531). Piko's N gauge range also includes the DSB version (5/4112).

When the maroon colour scheme was carried, DSB – like most European railways, was going through a difficult time; financial losses, unpopular closure of rural lines, declining traffic . . . and it was quite common to see an M61 hauling a pair of carriages, or a couple of goods wagons. So it would be in order to run a maroon M61 on your layout with a very short train.

In the early 1970s DSB adopted a new and attractive corporate livery. Locos were repainted black, with red ends. The first M61 was repainted in 1975, but locos were repainted at the time of major overhauls. The M61s were black up to the doors, and the doors and cab were bright red. The letters DSB were written boldly on the side in white, and smaller on the nose. The old wings and crown were not used with the new scheme.

Black and red DSB locos are made by Fleischmann (4273) and Märklin – who use the same number as for their maroon version. The N gauge Minitrix version is numbered 2023.

Note the nose ladders on NSB's no 3-629. The detachable snow plough blade is the same reddish orange as the loco body. The black and yellow squares at the base of the plough cannot be seen in this view (NSB).

The M61 in Norway

In Norway this class is called Di 3. NSB (Norges Statsbaner) bought 35 of these locos in five batches from Bofors Nohab between 1954 and 1969.

On some of the lines where NSB run their M61s, the weather is outstandingly bad – particularly the Bergen, Nordland and Røros lines. Norwegian Di 3 locos have several modifications which are important to the modeller. The windscreen is covered by a close spaced grill to protect the glass from snow fall when emerging from avalanche tunnels. The glass is extra thick (22mm). Throughout the winter, these locos carry snow plough blades. The carriages are heated by electricity supplied from a loco mounted generator. On the roof is a pack containing fans and filters to provide a reasonable operating environment for the motor. On either side of the nose, Di 3 locos have a ladder so the crew can climb up and clear snow from between the windscreen and grills.

Di 3 locos are painted an orange red shade, with a yellow stripe along the side. The company logo – a winged wheel with 'NSB' superimposed is carried on the noses. At least one Di 3 loco has the right hand cab door replaced by a fixed metal panel.

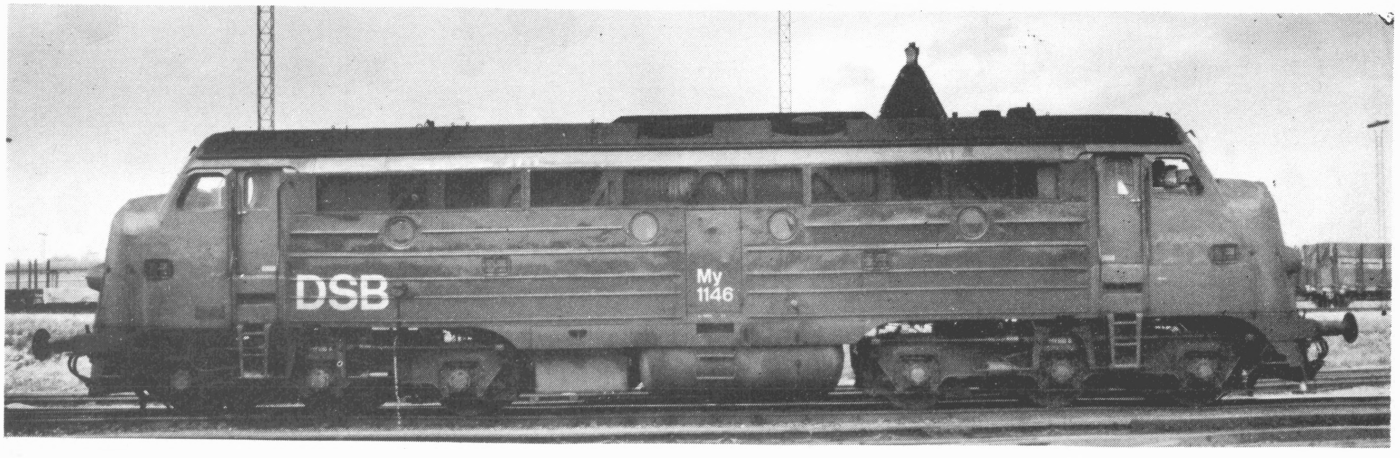
At one time Märklin produced a fine model of the Di 3. As well as the correct colour scheme, the model incorporated the extra ladders and roof pack, but not the windscreen grills. This model is not in the current Märklin catalogue, so if you want one, you will need to buy second hand!

The M61 in Hungary

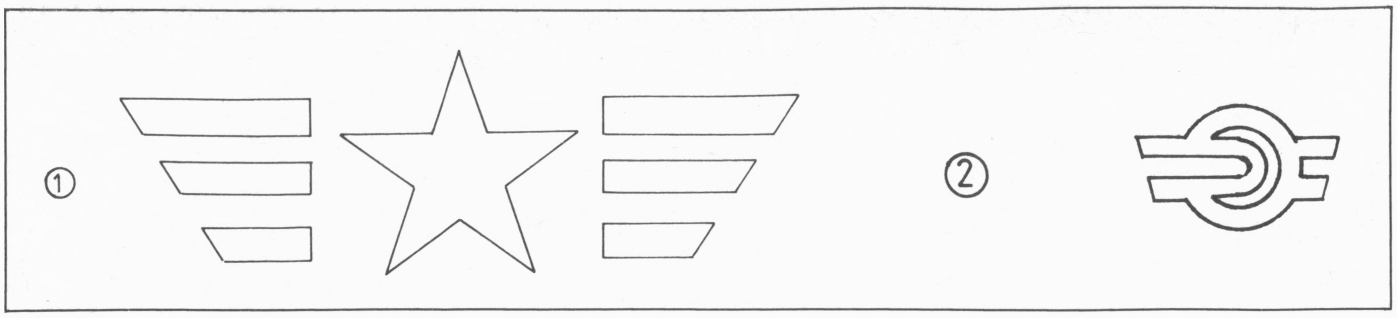
Hungarian Railways bought a batch of twenty M61 locos from Bofors Nohab in the late 1950s. They were painted light red, with a yellow circle on the nose. In the circle was a red five pointed star, and beneath the badge the letters MÁV – Magyar Államvasutak. However, some locos have been repainted with different badges.

The M61s supplied to MAV were of standard gauge (4ft 8½ins). However some were possibly regauged to 5ft gauge for service on lines near the Soviet frontier. At least one traveller claims to have seen M61 locos used as shunters deep in Russia. Perhaps Russian and Hungarian readers could provide more information?

The East German firm of Piko make an



Danish Railways' loco. My 1146 in the latest black and red colour scheme. The first locos of this class to be repainted were done in 1975 (DSB).



1: *This badge appears in white on the nose of loco M 61 012.*

2: *The standard MAV logo, which is used on road vehicles and company note paper. Loco M 61 020 carries this badge in white on the nose.*

HO scale M61 in MAV colours – No 5/6004. Berliner – Bahnen offer the TT model in the original MAV colour scheme (2532) and in 1980 they released it under the same number in the newest MAV colour scheme – an orange-red quite like the Norwegian colours. Piko offer the N gauge version in original colours (5/4108).

The M61 in Sweden

Swedish Railways (SJ) took delivery of five M61 locos from Bofors Nohab in 1956. Although they had the same technical and mechanical specification as other M61s, their appearance was totally different – with a single cab two thirds the way along, making them in effect 'road switchers' rather than conventional road units.

These locos were placed in class T41, and numbered from 200 to 204. Initially these were used for passenger work in southern Sweden on the Alvesta-Boroas line. Later they were transferred to Östersund where they hauled goods trains. In 1979 these locos were withdrawn and placed in reserve stocks.

Models of the M61

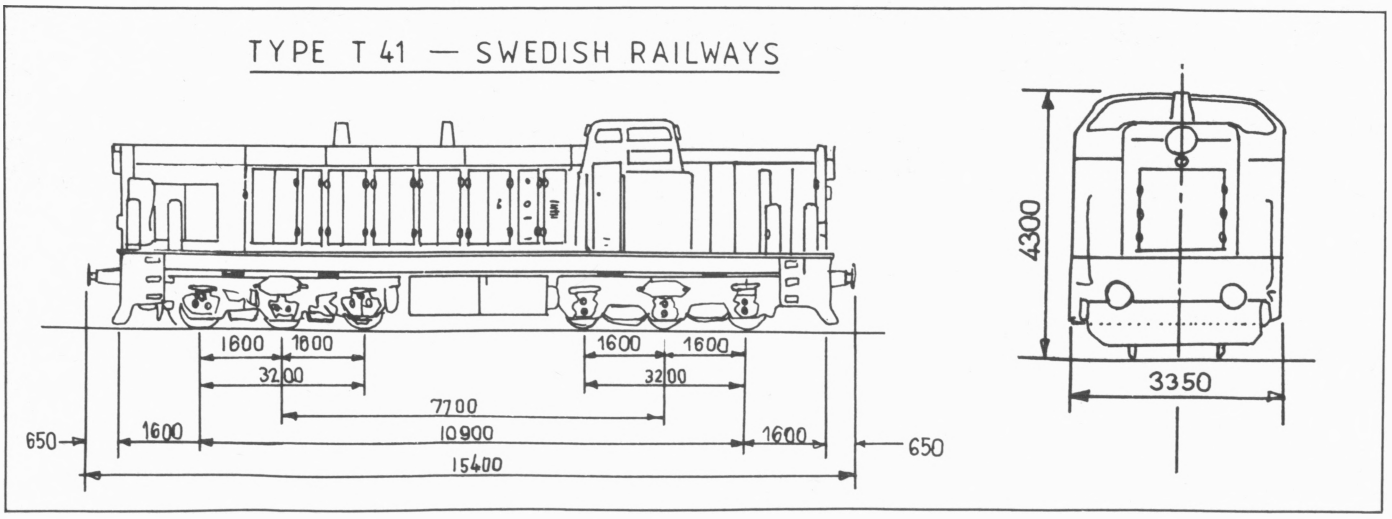
There is little to choose between the HO models produced by Fleischmann and Märklin. Both models have well proportioned plastic bodies. These are now quite old designs not reflecting the very latest standards, but still quite good nonetheless. On both, the windscreens are not flush with the body, and both have rather crude windscreen-wipers moulded into the transparency. Both models have nicely made wire handrails by the entry doors.

Both Fleischmann and Märklin have used the same basic body for all versions – thus

NSB number 3.629 before delivery. Note the yellow and black strips on the footrest by the buffers, and on the side of the entry ladder. Following subsequent repaints, these stripes were often overpainted (Bofors Nohab).

Fleischmann's Danish M61 has vertically sided entry ladders, and Märklin's Belgian M61 has round buffers! Märklin do not supply entry ladders on their models, to allow the loco to go round tighter curves. Both models have lights which change according to the direction of travel. These models are not cheap in the UK but they are of high mechanical standard. Also the paint finish is not up to the latest standard. On the Belgian loco inspected, yellow spreads over the green, and on the Danish model, the red and black demarcation line is not as clean as it should be. Some examples may be better than others in this respect, but you need to do a little work on either of these models to correct the details for the line concerned and the masking can be improved with a little brush work. In addition buffer beam detail and other minor details can be added by studying the pictures and working a little on the models in the way suggested for other diesel models in past issues of this magazine.

Piko produce their rather basic M61 in HO scale and N scale as used by SNCB, DSB and MAV. Piko models are extremely cheap and would make a good basis for extra detail. Piko HO M61s have been advertised this year for less than £7 at discount, making a bargain buy. The outline is accurate and with the added detail, correct steps, lights, and other correct features for the company



Type T41 – Swedish Railways. The five locos of this class were painted standard SJ reddish orange, with various yellow stripes.

concerned, you can have a good model for a modest outlay. The N scale version needs similar treatment. It has a quite crude but clever drive system which makes it a very good runner and well worth consideration. Painting the rather bright wheels black on this model gives an instant visual improvement.

Minitrix make good N gauge versions as used by SNCB and DSB, but omit driver entry ladders, to avoid fouling the bogies. Their models have opaque pale grey or black windscreens. A transparent windscreen might be better, even if it means seeing the motor.

Berliner Bahnen's TT version is very good indeed, quite modestly priced (about £17.25), an excellent runner, and nicely finished. It lacks cab steps and has three nose lights – so you have to remove the top one for the SNCB version, for example. UK distributor for the Märklin model is A.M. Richards, for Fleischmann it's M & R, for Minitrix, Burtons, and for Piko and Berliner-Bahnen, it's Eastern Models.

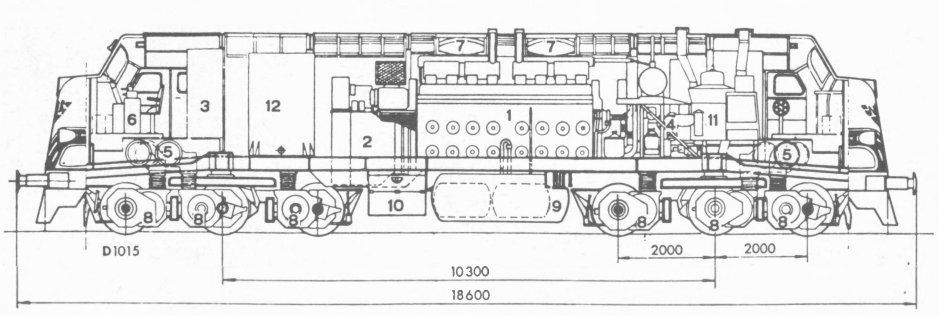
The M61 in railway history

General Motors (EMD) had great success in selling their legendary F series loco in huge numbers throughout the USA, Mexico and Canada. They also exported them to the Middle East, and have had them produced under licence in Australia. They must have had high hopes of repeating this success by selling the M61 all over Europe. Many rail administrations, including BR, considered buying, but in the event only 162 were built for six railways. So in terms of sales the M61 was hardly world-shattering. However, these locos are still serving, proving as rugged and durable in Europe as their F series progenitors have been in America. Though now quite elderly they should still be seen on European rails for some years to come.

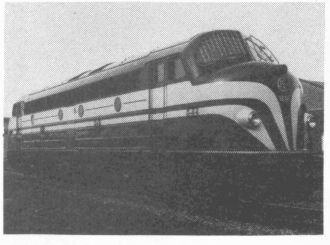
Acknowledgements for information and illustrations for this article are due to K. Karlsson of Nohab, P. Gleis of SNCFL, K. Ravn Jensen of DSB, L.O. Karlsson of SJ, and the publicity departments of Belgian Railways and Norwegian Railways.

The first of twenty M 61 locos supplied to MAV by Bofors Nohab. Note the twin horns mounted between the windscreens (Bofors Nohab).

This photo of NSB's loco 3.627 shows to perfection the silver roof pack – unique to Norwegian M 61s. The windscreen grills differ from those on SNCFL locos. Note the entry door at the further end has been permanently sealed (NSB).



All dimensions in mm



First M 61 for SNCFL was 1601. Note screen grills differ from NSB versions. Upper nose light on this version is actually a red tail lamp.

Gauge	1435 mm
Type	Co'Co'
Speed max	105 km/h
Continuous tractive effort	17500 kgs
Weight running order	98000 kgs
Axle load max	16400 kgs
Fuel quantity	1100 l
Train-heating	steam

1. Diesel engine EMD 16-567C
2. Main generator and alternator
3. Control cabinet
4. Air compressor
5. Traction motor blowers
6. Control stand
7. Cooling fans
8. Traction motor D19
9. Fuel tank
10. Battery
11. Steam generator
12. Water tank

1950 hp Nohap-GM diesel-electric locomotive model D13 of the Norwegian State Railways. This is an official Nohab-GM cut-away diagram.

The classic 'Hall' class. This is 5900, Hinderton Hall *as preserved at Didcot by the Great Western Society. Here it hauls a train of preserved coaches. Note the characteristic 'twist' in the stowage of the front brake hose and the way the coupler is secured to a hook beneath the right buffer (Howard Bennet).*

IMPROVING THE 'HALL'

Richard Gardner shows how to improve the appearance and performance of the Hornby 'Hall' Class locomotive.

Earlier this year during a visit to the Hornby exhibition train we asked if the company was planning to update the 1966 model of the 'Hall' loco to present standards. We were told that there were no immediate plans to do so, and we were not at all surprised in view of Hornby's crowded new loco programme for 1981. If the Hornby 'Hall' is to continue in production unchanged for some time as the only ready-to-run model of this most useful class of mixed traffic engine then it is worth a little effort to correct some basic faults and to give a better performance through dead frog points.

The model was introduced into the old Triang-Hornby range in the guise of 4983 *Albert Hall* in BR lined green. Over the years it has also appeared with different identities in both glossy and dull GWR finish. It also adopted a bright red colour scheme with the name *Lord Westwood* in 1973, but the least said about this particular renegade finish the better!

The model looked very good back in 1966 but compared to the latest standard of ready-to-run loco it is below par. The most obvious error is the over-scale extension to the front end which makes both the smokebox and front footplate far too long — over a scale foot too long in fact. The cylinders and slidebars are also inaccurate. Nevertheless the body moulding is good and there is nothing wrong with the tender at all. There is certainly scope for adding the individual touch thus departing from the 'straight from the box' look.

My own conversion was made several years ago and was one of the first attempts at rebuilding a standard ready-to-run loco. This helps explain the boiler bands on the firebox! Before any good souls write in to point out that BR didn't paint bands on fireboxes I admit the error . . . its just that at the time that the photos were taken I had not got around to painting them out!

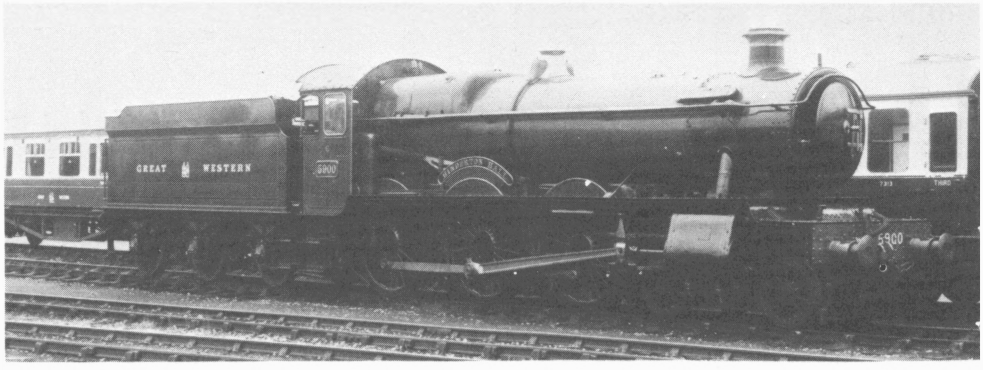
STAGE 1

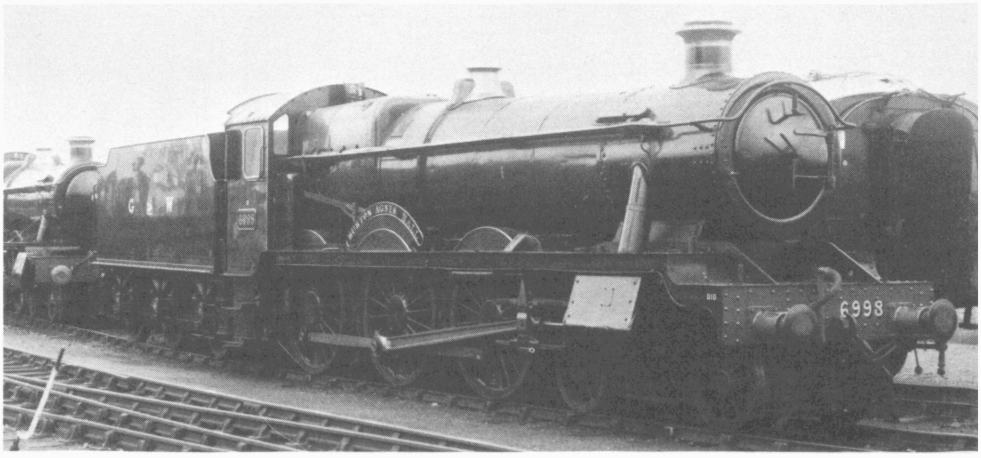
This covers the dismantling of the locomotive with all small parts such as screws and sub-assemblies placed together out of harm's way. The work will involve separating body and chassis and it is the chassis which will be considered first.

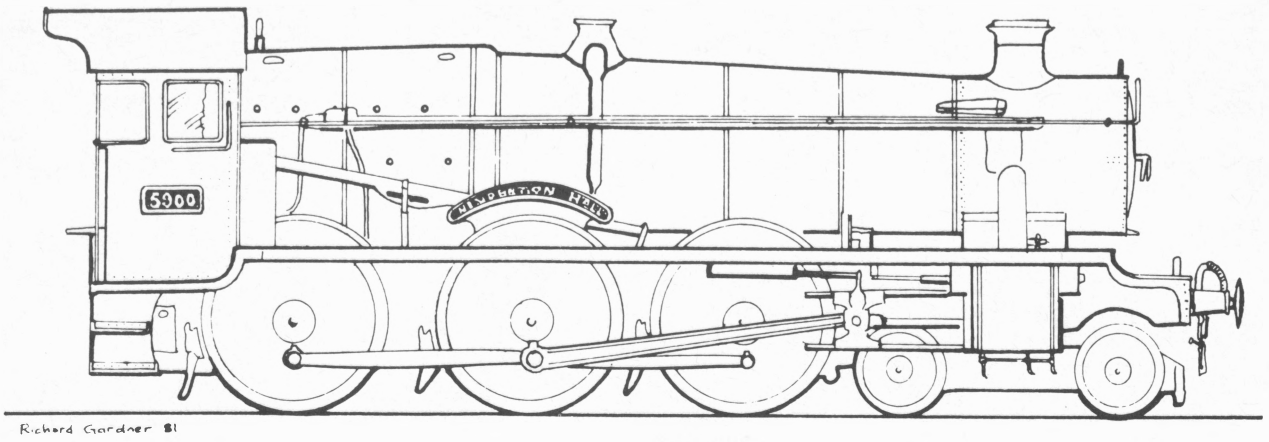
STAGE 2

First of all reverse the front bogie and cut off the chunk of metal used for mounting the coupling (it fouls the buffer beam). The pick-up design on this locomotive is of the old spring-clip type. Two wire 'hooks' bear on the front and rear inner wheel edges on one side and the other wheels are live. The design of the pick-ups is such that fluff and dirt can soon build up and thus prevent good electrical contact between loco and track. As the Hornby motor is a good smooth and powerful unit it is desirable to supplement the pick-ups with additional ones to pre-

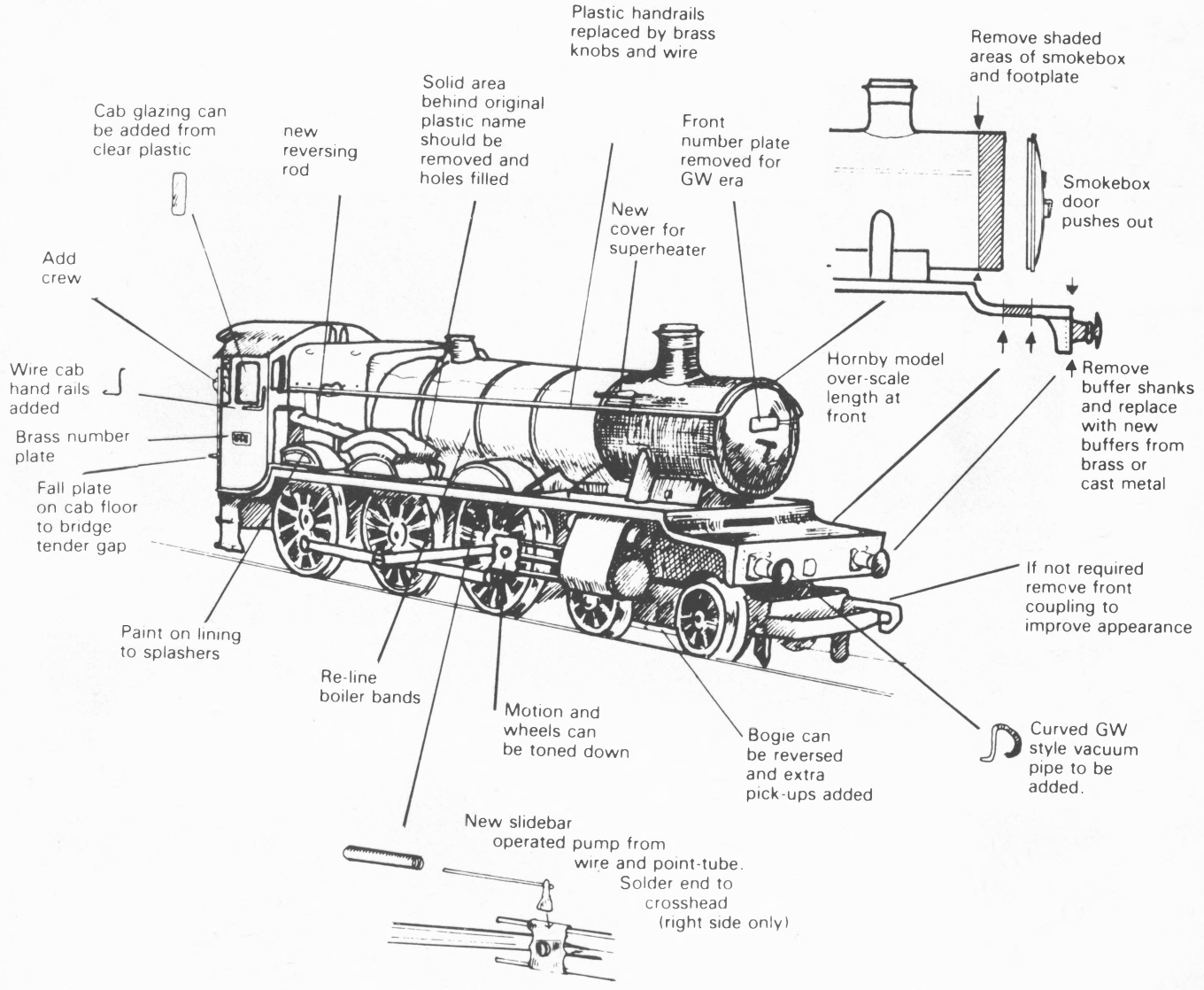
Below: *Another view of* Hinderton Hall *at Didcot in the pre-war style of finish. Note long superheater cover, splasher beading, and here a partly open smokebox door.* **Bottom**: *A 'Modified Hall' would be a further conversion idea; 6998* Burton Agnes Hall *has a Hawksworth flat-sided tender, longer steam pipe, extended front frames, and is in post-war finish.*







Full-size for 1:76 scale, 00 gauge


Plastic handrails replaced by brass knobs and wire
Remove shaded areas of smokebox and footplate
Cab glazing can be added from clear plastic
new reversing rod
Solid area behind original plastic name should be removed and holes filled
Front number plate removed for GW era
Smokebox door pushes out
New cover for superheater
Add crew
Wire cab hand rails added
Brass number plate
Fall plate on cab floor to bridge tender gap
Hornby model over-scale length at front
Remove buffer shanks and replace with new buffers from brass or cast metal
If not required remove front coupling to improve appearance
Paint on lining to splashers
Re-line boiler bands
Motion and wheels can be toned down
Bogie can be reversed and extra pick-ups added
Curved GW style vacuum pipe to be added.
New slidebar operated pump from wire and point-tube. Solder end to crosshead (right side only)

vent a jerky passage through pointwork. With new pick-ups wired in the performance is transformed.

The photograph shows how small copper strips have been affixed to the front bogie bearing on the back of the wheels. On the insulated side (the same side as the Hornby pick-ups) the copper strip has been cemented with Five Minute Epoxy to a piece of black plastic card on the bottom of the bogie. The strip on the live side is fixed direct to the bogie casting. Small wires are soldered to the two strips, then taken up through the hole in the bogie pivot (thoughtfully provided by Hornby!). The other ends of the wires are soldered to the existing pick-ups. Check that the bogie swings freely. If it is too stiff then you have probably used wire that is either too short or too thick.

You can replace the overscale Hornby

slidebars at this stage if desired. At the time of photographing my model I had not yet done this. At the very least the ends of the existing bars should be cut off or painted black (as shown). The other bright wheel rims and motion should be toned down with a mix of brown, silver and matt black. Keep paint from clogging the moving areas.

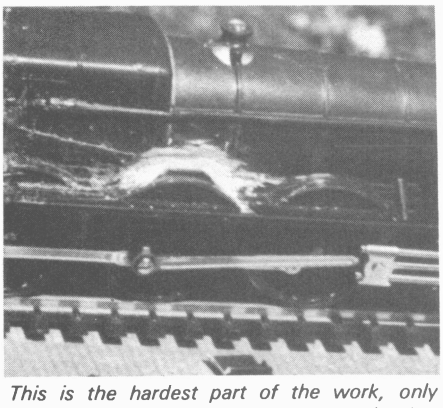
STAGE 3

The smokebox door pushes out and this enables the offending 4mm of surplus smokebox to be cut away with a razor-saw without damaging the all-important front aspect of the loco. After making sure the end is absolutely flat, the door moulding is replaced and cemented with liquid glue. The footplate is also cut back as shown. When all is quite dry Plasticine, with a few pieces of lead, can be used to fill the boiler in front of and behind the motor. The extra weight gives a nicer 'feel' when handling the model, quite apart from increasing the adhesion when running on the layout.

STAGE 4

This stage can best be described as the cutting away of those details which are more realistic when added separately. The moulded handrails are soon removed and replaced by brass knobs and wire. Note that on the right hand side of the loco there is a moulded pipe and the handrail is mounted on top of this pipe. The short right-angle hand rails on the cab sides can be added from wire.

On the body moulding the nameplates

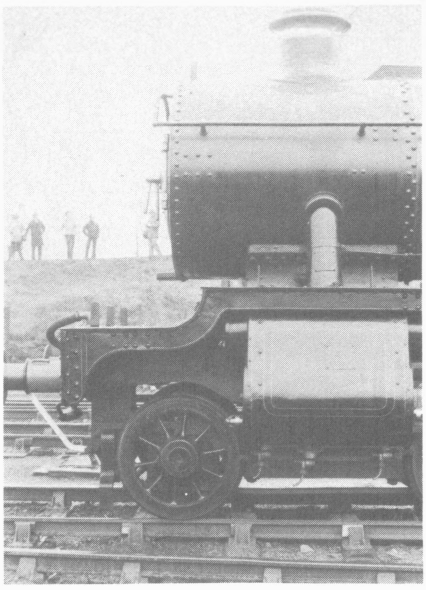


This is the hardest part of the work, only because it needs careful carving and takes time. The original solid splashers are cut away and the area is filled with Milliput and sanded smooth. Reversing lever and plastic handrails are similarly cut away for replacement.

are joined up to the boiler whereas there should be nothing there at all! The whole of this area should be carved away and any holes filled with Milliput epoxy. The boiler may need a panel of plastic card behind it before you add the filler. New nameplate panels can be added from plastic card with Kings Cross or CGW engraved brass plates added for the finishing touch. This paragraph makes it all sound simple, and though the work is within the capability of anyone with basic experience, I must stress that care is needed with this work.

The buffers as supplied are too truncated and so new brass or white metal buffers are added to the beams. Next you can add cab glazing from transparent plastic, not forgetting to add the characteristic Swindon beading with brass-coloured paint. The drawing shows all the detail additions that can be added.

The close coupling of the tender and engine can be achieved by re-positioning the tender pin — but this of course depends on your curves. For small-radius curves leave the tender pin as it comes. Whether you close the gap or not a cab fall plate should be added to the cab floor. This helps the appearance and gives more scope for positioning the crew members. Just for a change I used a figure from the Airfix Luftwaffe ground crew set for a fireman. He is converted from the figure holding an oil can and represents the fireman emptying his kettle! The driver is seated on the left-hand side.

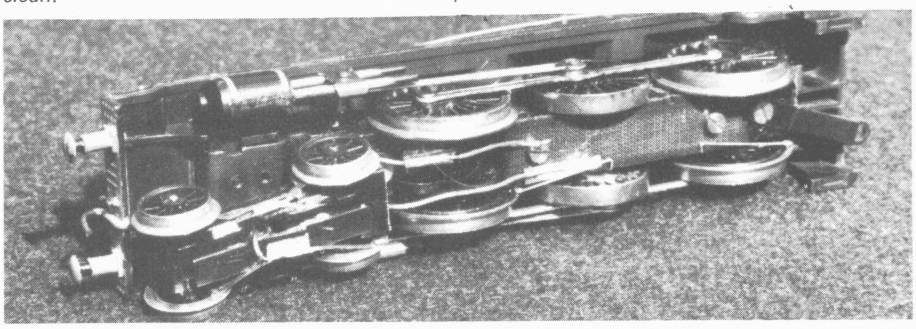


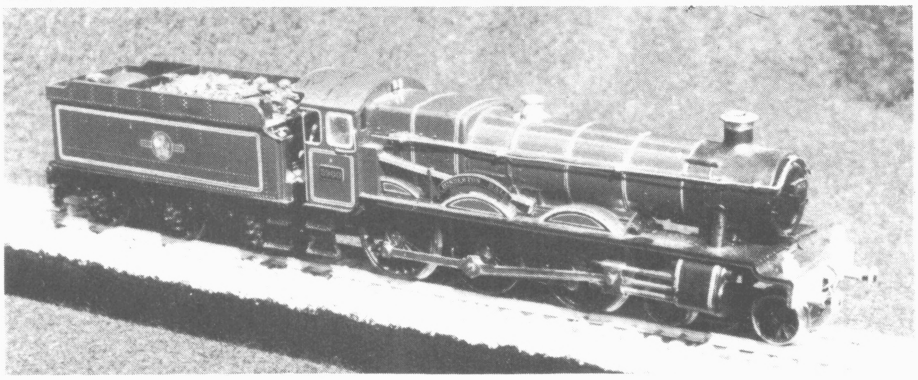
Above: *Close view of 5900 shows boiler overhang at front, plus lamp irons, cylinder draincocks, and front footplate shape. (Howard Bennet).*

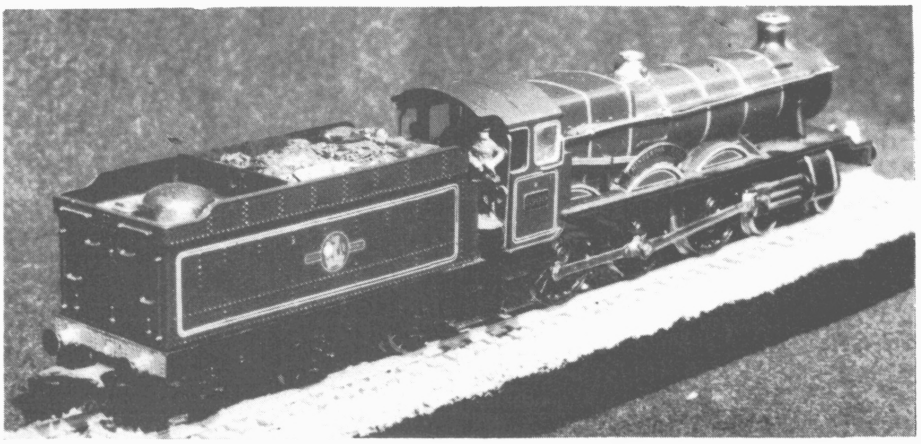
Below: *Key view shows underside with extra pick-ups on front bogie and wires leading to chassis base plate.* **Bottom**: *Two views of the author's finished model in BR green livery, and clean.*

STAGE 5

Final finishing. It is easier to paint and line the boiler when the body is in a dismantled state. I used Humbrol standard loco green and matt black paint hand brushed. Lining was from the Kingprint rub-on sheet but I now prefer the waterslide lining from Kemco as it is so much easier to work with and adjust. The final finish is 'ex-works' gloss varnish, but you may wish to add a little dirt and weathering.







Trainlines

LETTERS TO THE EDITOR.

For your information

I have just read the July 1981 edition of your magazine noting comments made by several contributors in the letters page and would like to add further information in an attempt to set the record right.

(1) Many people believe that the 42ft parcels van (Lima) is extinct on BR metals. I have just seen two in Scotland and one was far from floundering. Numbered ADB975241, a renumbered vehicle from lot 863 which was built in Wolverton 1935, it is now resplendent in yellow with black markings acting as tool van on a breakdown train stationed at Ayr MPD. It was attached to two former BR banana vans and two ex LNER coaches which helped to complete the train. The RCTS publication *Coaching Stock of BR* only covers, I believe, stock in revenue earning service therefore excluding departmental stock. Publications like that, useful as they are, can be misleading by not quoting all the facts as I have just shown.

The second van was sitting at Coupar Angus (shown on certain road signs in the area as Co Angus!) but I was cycling towards Perth against a strong wind and felt too shattered to extract notebook from my pocket to record its number. This, fellow modellers, is what one should not do. I now ask someone to follow-up with the running number, or it may be showing its original number. The van was very dirty and sad looking, carrying what appeared to be a well weathered maroon livery.

(2) The Lima milk tank W44520 mentioned by Mr Dixon is illustrated in my friend Dave Larkin's book *BR General Parcels Rolling Stock* on page 52 which shows the vehicle in the colourful St Ivel livery and running in roller bearings. May I return a poser? The 'M' on the IMS tank wagon on page 51 of the same book (wagon 23) shows a 'short' M while the Lima model of no 22 shows the centre of the M continuing below base line. Are Lima correct? Were there variations? The underframe, W1970, is as modelled though the ladder should continue downwards by another rung to just below solebar level.

(3) Continuing on to your review of Mainline 9ft wheelbase private owner wagons (page 388) I am not so sure that the body length is dimensionally correct. Obviously the underframe is standard, measuring a scale 17ft 6ins over headstocks, yet the drawing of an LMS 7-plank mineral wagon on page 52 of *The LMS Wagon* by Messrs Essery and Morgan (David and Charles) shows 16ft 6ins, and F.J. Roche drew his PO 7-plank on page 38 of *Historic Wagon Drawings in 4mm Scale* (Ian Allan) with 16ft 9ins over headstocks. Both Airfix and Mainline opted to use standard items which is a great pity. There are still, unfortunately, no scale r-t-r 7-plank mineral wagons available on the model market.

(4) I note that Mainline intend to introduce a 10ft wheel-base 1-plank wagon with container in the shape of B450023, a reintroduction of an excellent vehicle illustrated on page 54 of Dave Larkin's *BR Standard Freight Wagons* (Bradford Barton). Branded 'Not to be loaded with containers' I hope that Mainline adhere to their policy of increasing accuracy and have second thoughts about using that mould for their container. They can, of course, use their recently acquired Airfix container wagon. I note that no-one has mentioned the rather meagre representation of axle-boxes on Mainline wagon underframes. Could they be persuaded to increase their accuracy and fit neater boxes?

B. Wheeler, 25 North Sperrin, Belfast

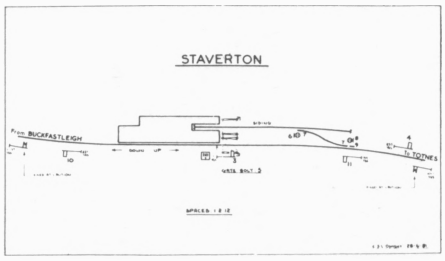
Staverton Bridge

May I add some comments to the article on the above station which was in the July issue? Prior to take-over by the DVR, it was known merely as 'Staverton', with its layout consisting simply of the running-line and one siding; the latter was worked from the ground frame, with a short spur road at its exit. Under the new ownership the increase in traffic led to proposals for two-train operation, in connection with which the passing-loop was installed at the north end of the station; the ground frame was re-locked to work this (using motor points), which necessitated transferring control of the siding to a separate ground frame.

Unfortunately, completion of these works coincided with the A38 road-widening scheme, which led indirectly to the closure of Buckfastleigh signal-box; this prevented introduction of the two-train system, and so the loop never entered revenue service. In addition, with the loss of facilities at Ashburton the locomotives were stabled at Staverton, where a second siding was laid next to the original one; access to them was re-aligned, with the trap-point replacing the previous spur.

Since then, the locomotives have gone to improved facilities at Buckfastleigh, and the sidings and loop are used for storage/engineering purposes. Regrettably the signalling installation was allowed to fall into decay for some time; it is now being refurbished, though more on the lines of its original function as a gate-box.

In view of the simple nature of the layout, and the availability of the necessary information, it is a pity that your author did not deal with the signalling in more detail. The diagram here shows the earlier arrangements; only the main pair of crossing-gates was locked from the ground frame, and the locking required these to be across the road before the siding points could be reversed. The branch was worked on the 'train-staff and ticket' block system, the sections being Totnes—Buckfastleigh (square, red staff) and Buckfastleigh—Ashburton (round, blue staff).



C.J.L. Osment, Bath, Avon.

Anyone for shunting

I feel that I would like to make a few points about the Bridgend article, feeling fairly qualified to do so having spent the last eight years being directly involved with freight working on this line.

First the BR era. The 'Britannia' class did not take over the top link passenger turns, never regularly working more than three up or down London trains a day. Secondly, the LMS 8Fs – some of these locos were allocated to Lanelli and worked regularly on the South Wales main line. Towards the end of steam 'Black 5s' were also seen continuously, usually on parcels trains and occasionally even a 'Jubilee' would show up.

For those who may have the room, there are still sidings at Bridgend situated in the 'V' between the main line and Tondu branch. These are used mainly for engineers trains, there being no facilities for handling freight at Bridgend yard. This is handled at Coity yard a mile up the Tondu branch. Served by daily freight from Margam Marshalling yard, this train shunts at Bridgend yard as required.

I hope these few notes will be useful to someone who is looking for an excuse to do some shunting.

R. Holwill, Skewen, W. Glamorgan

Disbelief

I would like to mention that I do not believe Mr Patterson's explanation of the origin of the name Sprat and Winkle (July issue). Mr Munday should be able to tell him that the Sprat and Winkle was the former branch line running from Andover Junction to Romsey until axed by the infamous Dr Beeching.

I do believe though that the name derives from the local name given for the canal which was filled up in order to make way for the line. How the canal acquired the unusual name I do not know but I hazard a guess and assume that it was something to do with the produce or cargo carried.

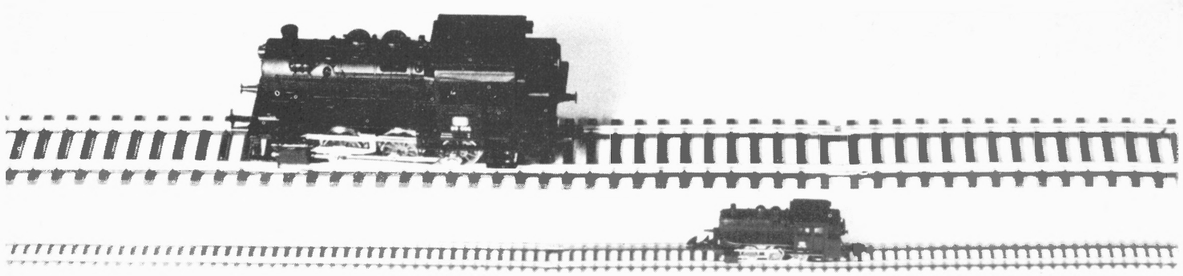
I have many memories as a child, travelling this line going from the junction to Andover Town on my way to school.

C.P. Town, Aylesbury, Bucks.

Alternative

You may be interested to know that for the Hornby Class 37 diesel there is an alternative way of providing a more acceptable 4mm scale model as compared to your method outlined recently in *Model Trains* magazine. This method requires you to buy a Hornby Class 37 body only, plus a Lima Deltic — which are now offered on sale, quite cheaply. The Deltic chassis is removed and a piece of the central plastic chassis is removed. This

Continued on page 605



Make it in Z Gauge

Steve Rabone builds a German branch line in the least possible space!

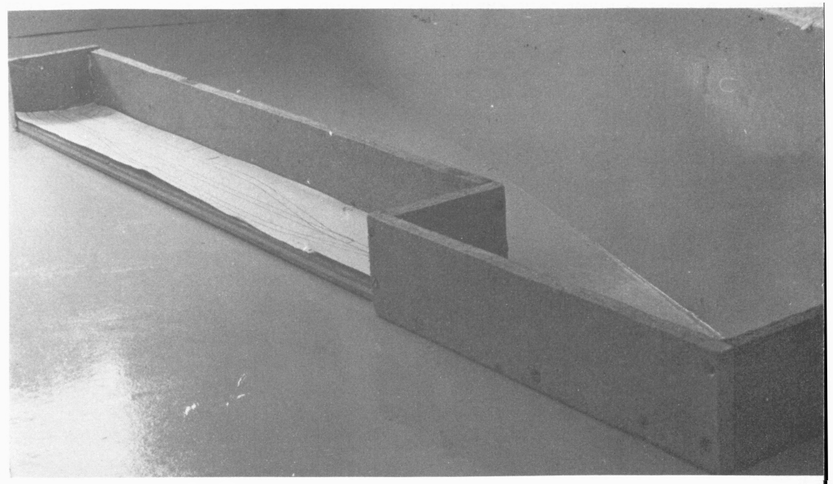
Some months ago the Märklin Miniclub Starter Set was reviewed in *Model Trains,* together with various other items of Z gauge equipment for this the smallest of commercial scales. I was tempted to purchase the set, as a sideline I assured myself or course! But of course it didn't end there, and here I am writing the first part of a five or six instalment series on the building of a small Z gauge layout.

First though why model in Z gauge? Obviously it is extremely small and this for anyone living in a modern small house, flat or apartment where space is very much at a premium, the very small size is the principal advantage. However there are perhaps less obvious advantages if my own experiences are anything to go by. My wife always shows a great interest in all my modelling activities, but never have I seen the reaction of delight when I produced the tiny 0-6-0T from inside my closed fist. I tried this trick on several other people who were totally disinterested in model railways and the reaction was always the same, 'Oh! . . . '. Thus its appeal as a result of the tiny size will probably overcome any resistance from other members of the household. In fact I would go further, it's so small you could have a secret railway! And if you live in the smallest of bed-sitters you can still have a layout.

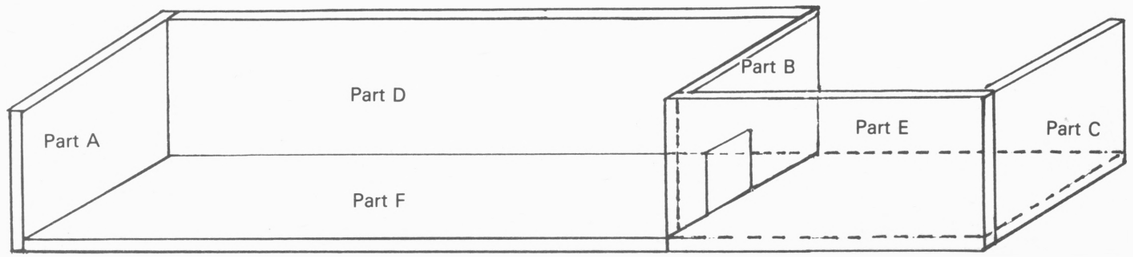
On a more serious note however many modellers ask the question, 'But what about detail and performance?' The answer to that is absolutely superb. For instance I have the model of the Miniclub Class 216 Bo Bo diesel and the very similar Roco HO Class 215 version in front of me as I write. Frankly there is little to choose in detail, finish or performance between the two. Virtually all the detail on the larger model is also there on the Miniclub loco and the lettering is superb. True the steam locomotives in the Miniclub range are not up to the standard of appearance of the larger scales as a result of the simplification of valve gear, but the modern diesel and electric models are really something. The only real blot in visual appearance in the Miniclub system is *that* big auto-coupling, but when vehicles are coupled into a train it becomes virtually invisible.

However, it is in the size of layouts that Z gauge really scores over all other gauges, including N gauge. One can either use a moderate space to model a really elaborate station or alternatively take a very small station and model in a very *minimum space.* When building my layout I decided to base it on the ever popular 'branch line terminus to fiddle yard' theme. The layout is a mere 41 inches by 4 inches. It is so small and light that it can be picked up and carried about with complete ease. If this layout were being modelled to the same proportion in N gauge even, it would be just that little bit too long to be completely portable in one piece. As for transportation, you can literally take it on the bus with a small bag for your stock and controller. Imagine turning up for an exhibition with the layout in one hand and everything else in a shoulder bag. That'd be one in the eye for the 00 gauge boys! The advantages of this size of layout in the home are obvious. It will comfortably sit on top of a radiator shelf (although I don't recommend this position when the heat is on), or more likely it could be put away in a cupboard after every operating session. And with a layout this size why not build further stations on similar sized boards, and link them together to make a complete branch line? I will return to this possibility later on. Truly the old excuse, 'I haven't got room for a layout' is now gone, and note this is by no means the smallest layout you could build.

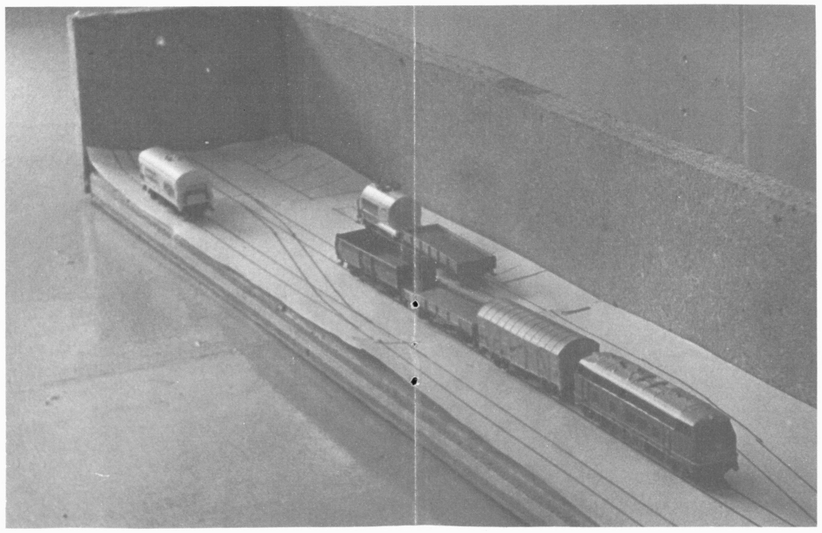
I decided to base my layout on the small Bavarian station of Bischofsgrun, near Bayreuth in Bavaria. My good friend Ulrich Rockelmann supplied me with photographs and a track plan, and I have been able to follow these quite closely. I have decided that the period I will model is the late 1960s up to the present day and that the layout will be strictly diesel operated. Virtually all stock required is available from Märklin. First for the passenger trains, either a 798 class railbus, or a Class 216 diesel and a set of four six-wheeled 'Convert' coaches. For freight traffic the same locomotive could be used, but for a little variety the Class 260 diesel shunter would be ideal. I will return to operational details later, because there is much of interest in present day German branch line working practices.



Above: *The baseboard is unusual in being box-shaped for ease of storage and carrying. But for this small scale it is an eminently practical way of doing it.* **Below**: *Three dimensional details – dimensions of parts are given on the following page.*



Right: *The baseboard made up and with full-scale track plan drawn on lining paper. Stock can be placed in position to give a good idea of finished appearance and to ascertain siding capacity. Loco is the Class 216 DB 'workhorse' which is to be seen on the actual branch.*



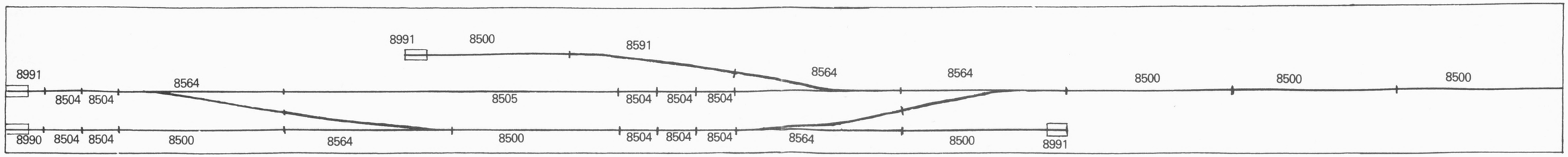
Part 1: The Baseboard

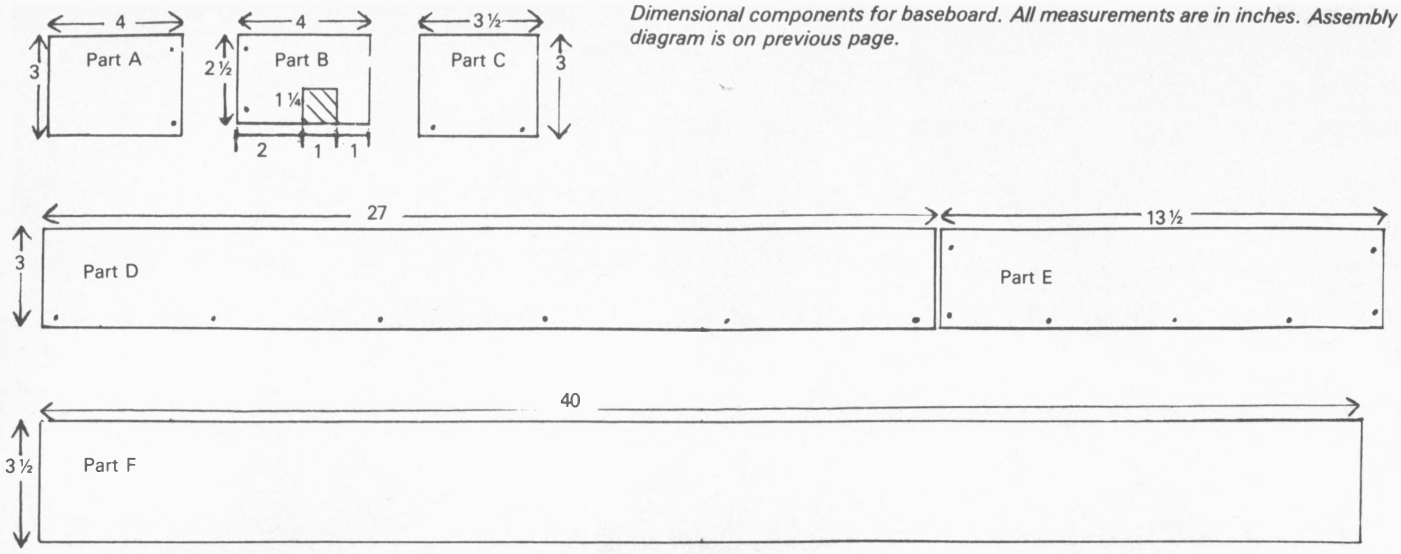
Below: *Plan of the complete Bischofsgrun branch terminus is marked with all Miniclub track components required. Your 'shopping list' is as follows: 8500 – 7, 8504 – 12, (alternatively cut 4 additional 8500s to 75mm length), 8505 – 1, 8564 – 3 (3 RH turn-outs, 2 LH turn-outs required, 1 LH turn-out spare), 8591 – 1, 8991 – 4. Note that as turn-outs are sold in pairs you end up with one more than you need. However, this can be kept for use on the future extension to this line.*

One further point before I get down to describing the 'nitty gritty' of building the layout and that is that I have scratch-built the track using the well-known soldered rail on copper clad sleeper technique. This is by no means as difficult as it sounds, provided care is taken. I built the track solely to allow my limited financial resources to be used in purchasing rolling stock. It is not intended in any way to be a criticism of the excellent and realistic Miniclub track. However my track was built around the same track geometry as the Märklin turn-outs and therefore readers should have no difficulty in reproducing the track layout with ordinary Märklin sectional track. A track plan and check list is shown in this article for most modellers will be using sectional track. Making track from scratch is an option if you like that sort of thing.

The basic design of the layout revolves round the station with its run round loop and two sidings. The fiddle yard is just a short length of track, thus all stock will need to be removed from the line after every journey. However this is no disadvantage for a sleepy branch line where operations will be as leisurely as on the prototype. A rerailing ramp is best used for placing stock on the rails. Alternatively you could dispense with the fiddle yard altogether if you decide to build a second station module, and extend the line on to another board. If you follow my scheme exactly and build another station module later, then the single line fiddle yard track will just become the 'country' between the two stations.

I built the layout baseboard out of scraps of plywood and chipboard that I had spare in the garage. The baseboard design is slightly unusual but it is easy to build and once finished is strong and light. My board was built around a piece of 12mm plywood 40 inches long by 3½ inches wide. Obviously the size is not crucial and indeed a few inches on the length and

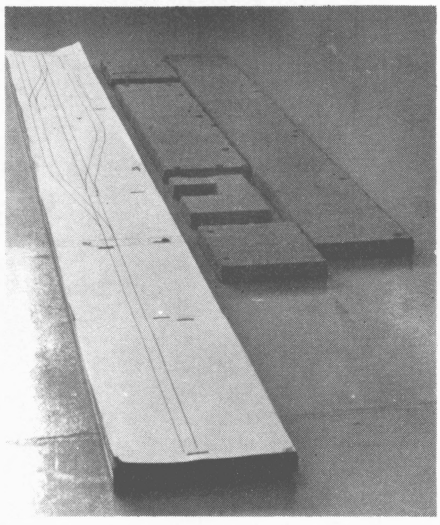




Dimensional components for baseboard. All measurements are in inches. Assembly diagram is on previous page.

width would be an advantage. As it is my station buildings will be built in half relief to fit the layout. The framework for the baseboard is *above* the actual baseboard surface, a departure from normal practice. This allows the framework to fulfil the job of scenic backscene and also effectively hides the fiddle yard track. Again the measurements are not crucial. The framework could be a little higher if desired, but beware of making it too high as this will make the layout difficult to operate from the rear. I would like to stress that there is no need to follow the precise dimensions, or to use the same materials. Use whatever is to hand. I used chipboard for the framework, but it could have been ordinary deal softwood of about the same thickness, or plywood. The only essential thing is that all wood is flat and free from warping. Frankly I would not use the often recommended insulation board or Sundeala in this case for the baseboard surface as parts of the baseboard edge are unframed, and sagging would be almost inevitable.

To cut the tunnel mouth out I found the easiest way was to place the wood in a vice, make two vertical saw cuts and then use a pair of pliers to break away the chipboard a little at a time. The rough edge can then be rasped smooth with a coarse file. Alternatively a jigsaw or fretsaw could do the job, but probably not as easily.

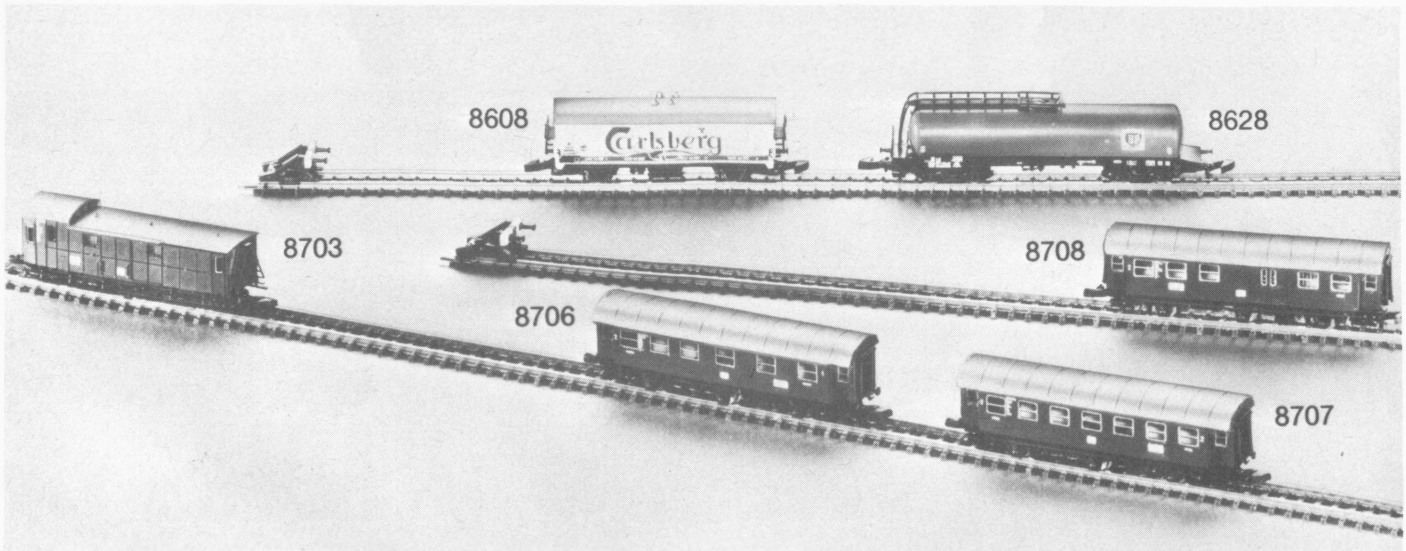


Here are all the parts cut to size and laid out on the workbench ready for assembly. Apart from getting all the edges and corners square, there is no great woodworking skill required.

The construction of the baseboard and the size of each piece of wood is shown in the diagrams. The baseboard was assembled by glueing all joints with white PVA woodworker's glue and screwing into the end grain of the chipboard. This is really not very good woodwork practice and I should have used special chipboard screws, but once the glue is dry a very rigid structure results. Should you wish to extend the layout at any time, just remove the plain board at the end of the fiddle yard and replace with another tunnel mouth board.

Finally I recommend that the track plan is drawn out full-size on a piece of paper before commencing track laying and a few pieces of rolling stock placed on the 'layout' to give an impression of what can be achieved, and to check for any problems in the restricted space available. Next time we will look at track construction and laying. Until then get on with building the baseboard!

Below: *The Märklin Miniclub range offers a most extensive range of German prototype rolling stock of contemporary or recent type – with some old-time stock also now available. Shown here (with catalogue numbers) are some recent releases, all appropriate for the Bischofsgrun branch. The full range of 'Convert' coaches can be seen, plus a Carlsberg beer van and a tanker, though the latter is probably not seen on the branch. The standard DB buffer stop is also shown here. As supplied, only German prototype models are available from Märklin but if you prefer British prototype you'll be pleased to know that Ellmar are now producing British outline models on Märklin chassis, starting with the BR Class 47 diesel loco. The layout featured in this series could be produced in British style to run these British models – which are to 1:220 scale, we understand, the same as the German models.*



NEWTOR CITY TRAMWAYS

Football Saturday at Park Gates. No 16 is in the layby, nos 32, 522 and 527 are in the football siding and no 29 is at section 3 waiting to turn into Bridge Street. The track and overhead at the Park Gates layby, are isolated and fed by a rotary switch to the Out or In controller as required.

Part 3

Eric Slagg continues his description of his 00 gauge working tram layout

The Overhead

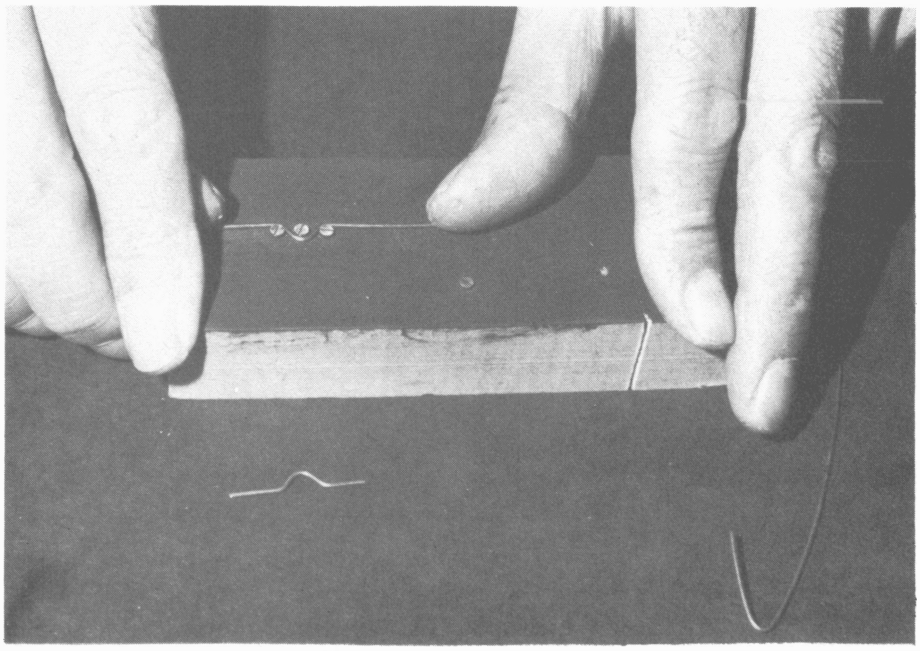
All the present layout is on hardboard bases as this is easier to take the very small track holding screws. Sub-bases of hardboard are laid alongside and between each track to bring the roadway up to rail level, with 1mm ply for pavements. When all this was screwed into position a hole was drilled through all pavements and sub bases to take each brass tube for the pole base. When all the holes were done the whole assembly was unscrewed, a base pushed up through each hole and the assembly screwed down again.

This was a mistake as in the event of an accidental break of a base from a baseplate it is now almost impossible to get at some sections for replacements. I hope to improve the design here at some future date with a nearer scale pole with an improved fitting, as each one showing any signs of weakness could be replaced individually.

The present arrangement is a pole 110m long. 88mm from the bottom, a number 50 hole is drilled through to take a 10BA cheesehead screw held by a nut. This holds the span wire and gives an overhead wire height of 82mm. Two flats are filed on opposite sides of the head and a number 72 hole drilled to take the span wire.

Hangars are formed by twisting 19 SWG brass wire (not too hard a grade) round the jig shown in the picture. Cut off the ends to leave two short side pieces and then put in the vice. Ensure it is properly upright, file a small flat at the top and drill through number 70. Flatten both side pieces in the vice and drill through each number 72 to take the span wire. With needle files, take off any excess round the holes where the flattening process will have left some uneven edges.

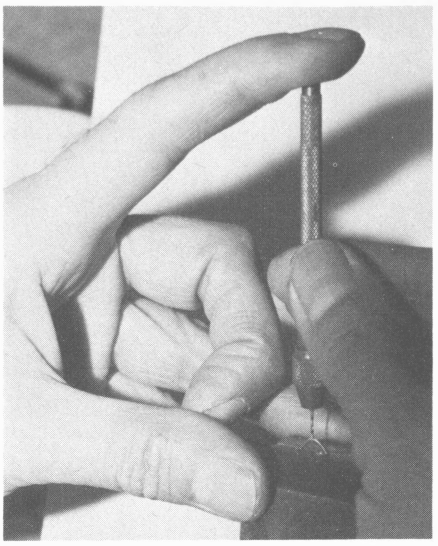
A small pin known as an office lill has its head filed flat and is then pushed up through the hole at the top. Hold on a flat piece of wood with the bottom of the pin and the two sides in line, and upright, and solder the pin to the hanger. Cut off the pointed end of the pin to leave about 2mm above the hanger and then slide on a tiny glass bead held by



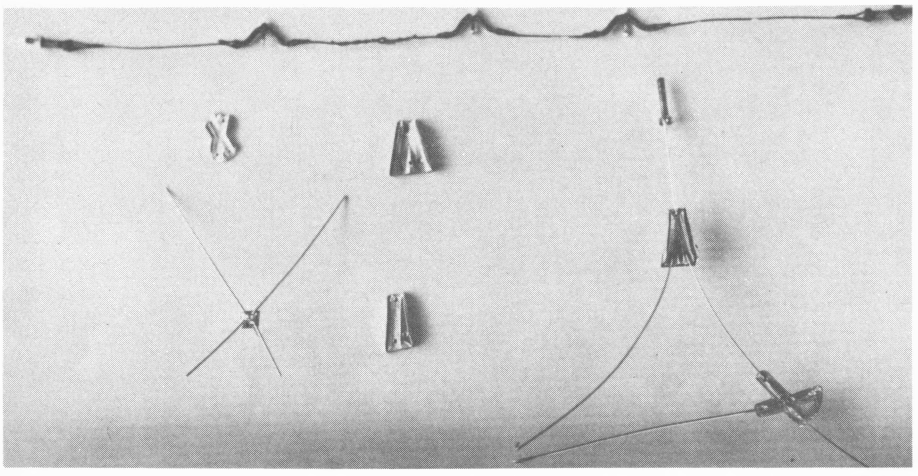
This photo shows the final bend of the hangers. The first bend is on the right, the final product is on the left.

glue to form the insulator. I got my supply so long ago that I have no idea of the original source but very small actual insulators as found in soldering irons etc might do, failing which try a tiny blob of glue left to set. With the hanger and span wire painted black and the insulator white the final set-up looks good.

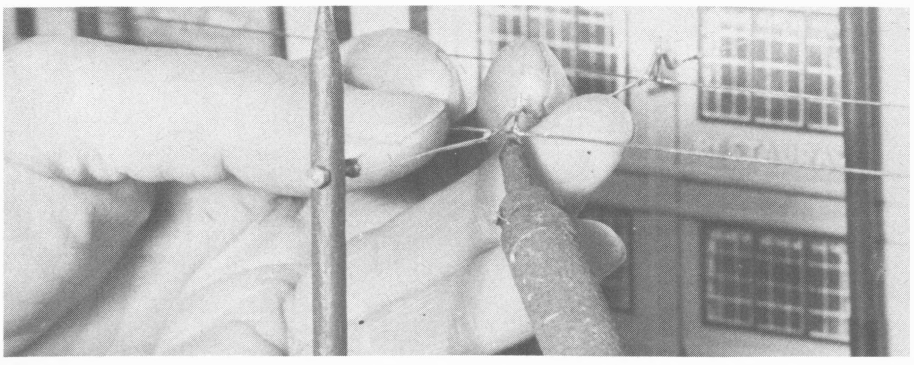
My setting is city and suburban streets so span wires are the norm but even suburban streets can rightfully have bracket arms, thus halving the outlay needed for poles. With poles and hangers, if you are going to make them, it saves an enormous amount of time if you organise a production line. Instead of working through to make one complete pole (or pair) with its span wires and hanger(s) make each item in batches. For example, a session bending hangers, then trimming a batch, doing the drilling, a batch of preparing 10BA screws for the poles, so that actual assembly is done from a box of finished bits and pieces.



The hanger is held in the vice, whilst drilling through the top, to take the pin to which the wire is soldered, occurs.



The top of the picture shows the hangers strung to the stay bolts. Note the twisted wire to insulate No 1 from No 2. Top left: Wire crossing filed from solid metal. Below: Small block crossing for wire. Centre top: Equal frog filed from solid metal for converging or diverging. Centre bottom: 'Y' reverser frog with one groove only filed. Right: The crossing built up on a block and frog for a trolley 'Y' reverser.



Soldering overhead. Thumb and 1st finger holds the wire whilst the 2nd and 3rd fingers hold the stay wire in position.

For span wires I use 26SWG enamelled wire as sold by the reel for winding small electric motors. Lay out two hangers so that their pins are the distance apart of the two track centres, measure the distance between the two inner holes and cut off a piece of the wire longer than this. With the wire held taut bend up 90° at the spacing you have checked, allow for a short length to be bent over to form a loop and cut off the excess. The insulation is scraped off at the end and at each place where this end folds back on to the wire where it is soldered. This is much better than soldering to the actual hanger as it makes for easy removal for future repairs or alterations by just snipping through the loop for taking off. The procedure with the span wires is repeated from the outer edge of each hanger to the pole. Measure the distances for these with the nuts slack behind each pole as this will allow slight adjustment by tightening one side and slacking off the other to centre each hanger over its track. To maintain accuracy, and thereby keep a section of overhead in a straight line, each pair of hangers needs to be measured individually for fixing the span wire as you will find that the holes in each hanger will not be identical in distance from the pin to which the overhead will be fixed. Some of the photographs show that I have broken this rule in odd places – and can only offer the excuse that doing over 100 led to a few corners being cut towards the end!

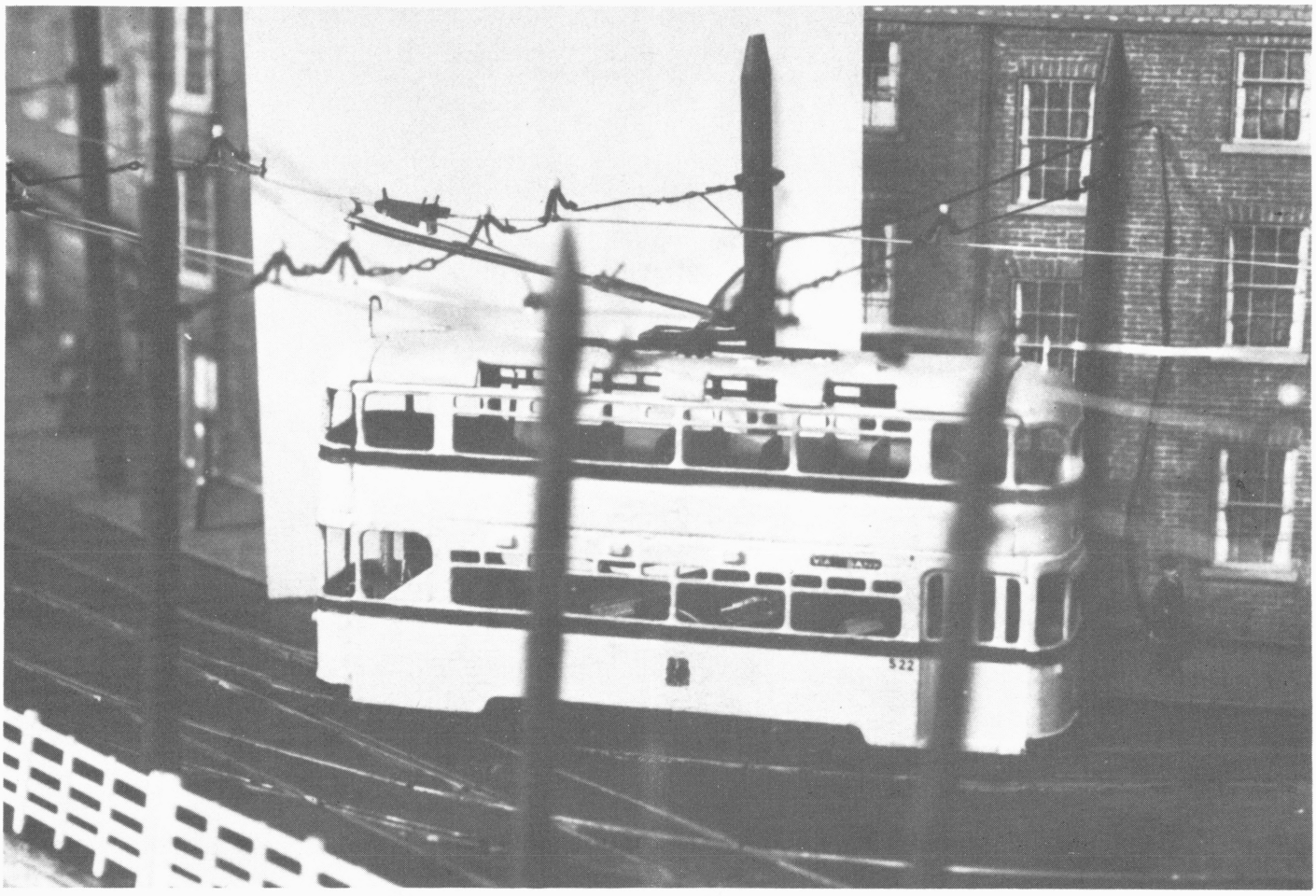
On Boards 2 and 3, as will be explained later, I have to insulate two or sometimes three adjacent wires from each other. Instead of using one piece of wire to join two hangers as described above I use two pieces. The ends of each piece are made into an intertwined loop which is folded back on itself and twisted a couple of turns with each end cut off. All the insulation is left intact so that now you have a piece of wire for joining the hangers which is dealt with as before but there is no electrical contact between the two.

When all the hangers are set up with the poles, start fixing the overhead wire. Check that all span wires are taut before commencing. With an end to end layout the starting point of the wire needs a good anchor and I use a pole at the end of the track with the wire turned up at right angles and pushed through the hole in the screw and then bent over to stop it pulling over. Using a piece of wire put a tiny blob of flux on each of the pins where the wire will be soldered and to ensure a good electrical joint pull the wire through a piece of folded emery paper to clean it. This is best done in short bursts when starting the actual soldering as it becomes rather tedious as it has to be done in situ, and upside down at that! A photograph shows the technique of holding the wire with the thumb and first finger and the span wire with the third and second fingers. Any excess solder on the side of the wire will have to be filed off afterwards as these joints must give a smooth path for the trolley.

The far end of the wire is finished off as it began, turned up through a hole in the screw in an end pole, but with a continuous layout there comes a place where you need a join in the wire. I did this with a short piece of wire as used for hangers. Both ends are flattened in the vice, ensuring that these flats are in the same plane, and a small hole drilled in each. These ends are then filed down so that there is only just enough brass left to form a good wall to each hole. The ends of each piece of wire are turned up and soldered ensuring that this 'jointer' and the two wires are in a straight line. These joints are critical and the parts must be scrupulously clean so that the first touch of the solder makes a good join. The jointer itself is soldered to a hanger but I have used some of them to join two pieces of wire on an open stretch between hangers. If a second or third joint does not take, you will probably have to undo and start again as the heat will have dislodged the first joint – hence the necessity of starting with absolutely clean surfaces.

With a simple double track and two overhead wires that is all that is needed. Many tramways manhandled the trolleys at terminal points and you can do the same with complete realism but when you introduce a point for another route (and as I said the multiplicity of routes is one of the fascinations of model trams) there are problems with the overhead as you need crossings and frogs.

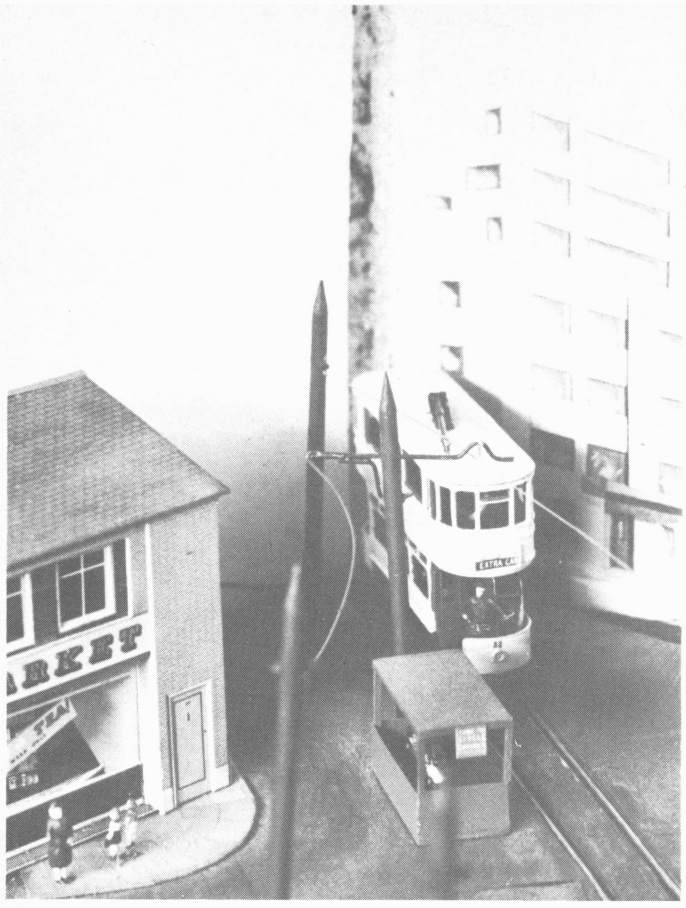
I filed up frogs from a small piece of 1/16in brass with two grooves, using a slotting saw,



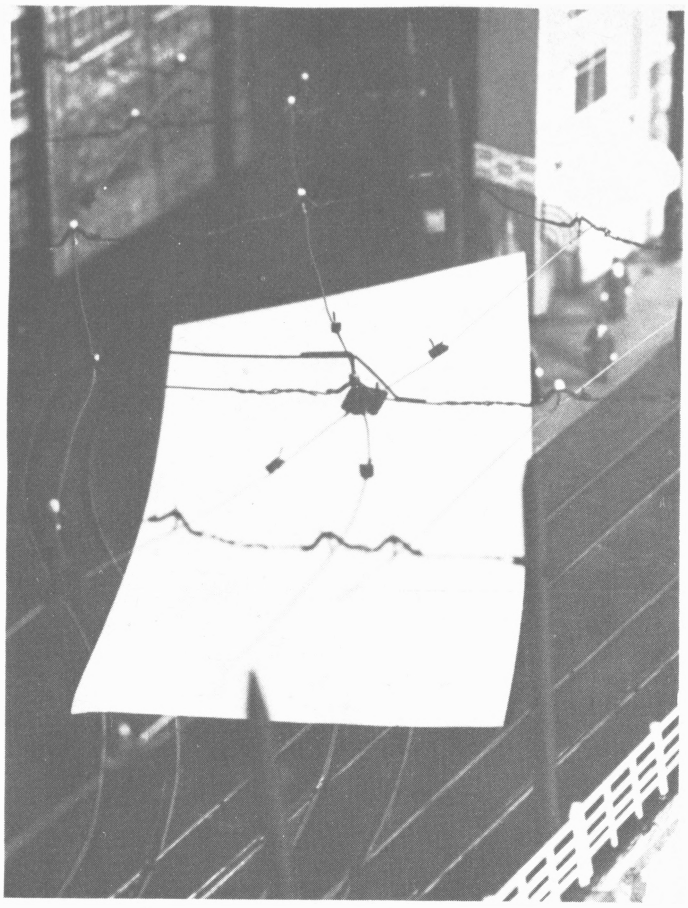
No 522 taking the curve into Bridge Street. It has just tripped the point motor to revert the junction to normal. Note that the trolley is being pulled away from centre so that it will take the correct path on the wiring frog.

This shows how one wire is insulated from the next with two pieces of the enamelled wire joined with twisted loops. Also shows how each is fixed to the hangers by being soldered as a loop through the hanger rather than soldering the two. This eases removal in case of any needed repairs.

Terminal stub at West End showing how the overhead and feeder is anchored to this section. Note the improvement of the balcony with the BEC etched brass wire mesh.



This photo shows how the bracket arm of the pole with the overhead feeder is anchored to stop any twisting. Note that the trolley is well off centre here but this causes no problems in operation.



The Bridge Street junction overhead crossing and how it is isolated for changing polarity. The four wire jointers are insulated and filed up from small pieces of plastic.

to form a 'V', with a small hole drilled dead centre at each extremity to take the wires. Frogs occur at three different situations:– (a) two converging wires where two equal grooves are filed, (b) two diverging wires, also with equal grooves and (c) the reverse into and departure from a 'Y' reverser, where only one groove is filed – on to the departure wire.

My trolley skids are 1.75mm wide so all grooves are made 2mm wide. This is critical because if they are too narrow the skids will jam and if they are too wide this will allow them to start to swivel and possibly de-wire on leaving the frog. The two lines, each pair 2mm apart, are now scratched on the brass and slotted out to the outer edge where any excess is filed off. The piece is then soldered to a small bit of brass shim and trimmed to leave a strip alongside each edge which, when folded down, makes a side check and forms the outer edge of the groove.

Diverging frogs at junctions caused a number of problems from time to time but were finally cured by moving the frog forward to be more or less over the track frog. In effect this means that whichever track the car is taking, the trolley is being pulled towards its correct path on leaving the junction.

Crossings of different sorts have been tried but the most satisfactory seems one made on an 'inverted groove' principle. The tracks are marked out 2mm apart on a piece of 1/16th in brass and using a thinner slotting saw (23g) and each line as a bottom marker in the vice a slot is cut. Repeat this with the other three lines, making sure the depth of each is approximately the same, and you are left with a piece that contains a raised cross with a small piece at the intersection.

Trim off the excess outside each outer groove and then file down the four ends of the cross very slightly and drill a hole for the anchoring of the wires. Make sure the hole is central as the object of this excercise is to ensure that the crossing and the four wires are all in the same plane. When soldering the wires up, make sure each makes a straight line into or out of the crossing. If you examine photographs of the full size thing you will see that these are arranged to give as wide an angle as possible. If the angle is too acute, if you follow the actual path of the track, there will be a possibility that the trolley will de-wire by deviating when it reaches the centre rather than proceeding straight across.

Don't be satisfied with something nearly right. Some of my frogs and crossings have been replaced (some more than once) to make quite certain that everything works 100% correctly. Nothing is more irritating than having to be always rewiring a trolley when it has come off.

If you decide to use bow collectors instead of trolleys there are not so many problems with the overhead. Simple connections into a little metal block is the answer for junctions and crossings (or the same into little blocks of plastic if you need an insulated joint) but there needs to be a little more care to ensure the wire is centred over the track. Also the pin in the hanger must be set very slightly lower (rather than level) so that the bow is not going to be obstructed by the sides of the hangers.

You may feel that the work so far is too demanding but after all, it is only necessary to do this once, and I would recommend you not to be satisfied with second best. It is the foundation on which many hours of enjoyment of operating your trams will depend upon.

I had no alternative but to work through a lot of grounding to design and then make a number of these parts but for anybody wanting to start now there is a lot of outside help. Meadowcroft Models of 277 Keighley Road, Colne, Lancs, issue a catalogue which lists virtually everything you need to get (except track) for a start and BEC Kits now do a wide variety of kits of trams.

If you have no railway even but think a small tram layout would be interesting to build, you will get something running quite quickly as scale distances are so much shorter than with a railway. Tram stops were often within sight of the next; no stations have to be built; no sidings; and I have shown that two double tracks can be accommodated in a 12in width of baseboard.

One slight drawback is that every vehicle has to have a motor, but even this is outweighed by the fact that there are no coaches, wagons, signals or other railway paraphernalia to be bought or made. A short length of tram track in a street, or reserved track going through a country setting, with only one tram is quite realistic and further trams can be added at a later date.

In my next instalment I will describe the problems I had to overcome to get just right that most important piece of the tramcar – the trolley.

Photos by the author

The light railway scene, 1930s style. A mixed train consisting of a brake van, PO coal wagon, and two 4-wheel coaches in charge of 0-6-0 Carlisle *is waiting for departure time on the Bishops Castle Railway while the driver poses for the camera. Note overgrown track (Photomatic).*

Modelling the British Light Railway theme

If space and time are a problem, or you just want something a little different, this might be the answer!

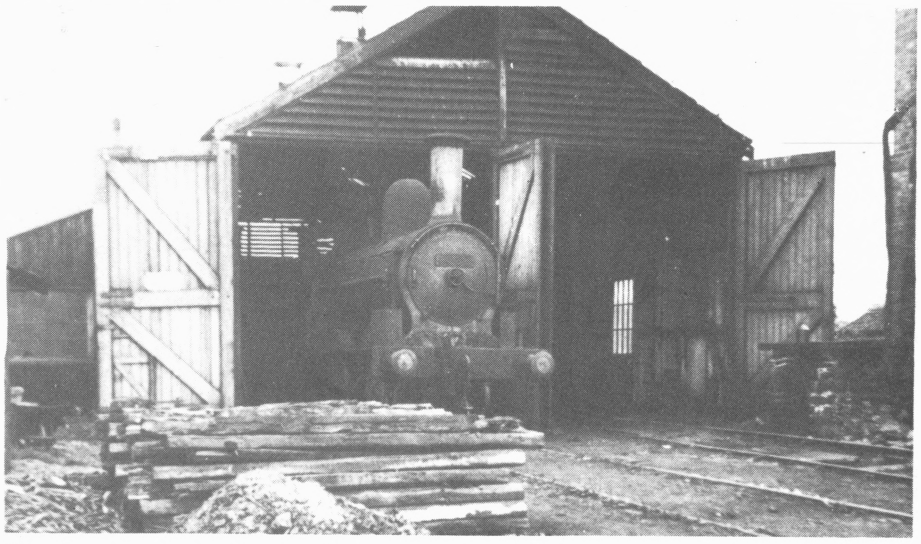
Consider the options if you have only limited space in which to build a layout. That limited space might be the 'traditional' 6ft × 4ft area, or it might be a corner L-shape, or something of that order. Modellers who take a conventional path and wish to reproduce big time railways might well end up with something like *Flying Scotsman* and two coaches running round a single track, or a 9F with just six little wagons. Imagination may help you to justify these operations in such a small area, but you'll have to admit that such trains are hardly prototypical. An alternative which has been suggested in these pages in the past is the Scottish Highlands theme where very short trains and simple track formations are to be seen even today. Another alternative might be the western extremities of the Southern Region, either today or in steam days, where short trains and simpler track formations are also to be found.

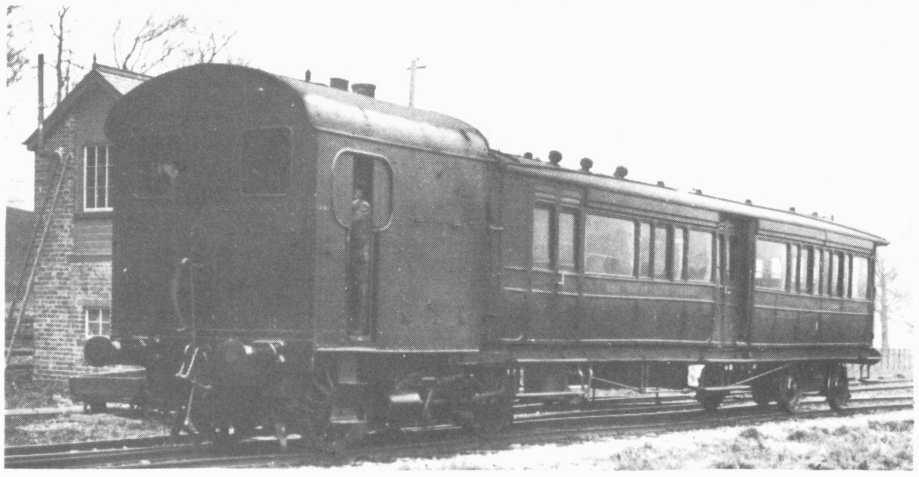
Yet another alternative is the conventional branch line theme, most often in steam days, an ever popular modelling subject and well-covered in the model press for many years.

If none of these options for a limited space layout attracts, what is there left? Well in several past issues (February, May 1980, and January 1981) we've put the case for the very simple American short line, and recently (June 1981) we looked at the equally simple German Kreisbahn, where stations are small and trains can be short. So far so good, but this leaves out British prototype, first choice for most readers of this journal. 'What a pity short lines like the American ones don't exist in England' said several readers who liked our model short line articles but prefer British models and settings. The quick answer to this is 'They did – and some still do'. It is over-simplifying matters a little but in Great Britain they are called 'Light Railways'.

Now before sticklers for accuracy dispute this statement, we must say that there is actually no direct equivalent in Britain to a USA short line because laws and regulations are different, as is the overall set-up of the railway network. But in terms of operating patterns, size, and even track layouts, some of the classic British light railways were very like short lines, and this is certainly the case when it gets down to the modelling aspect.

Take the Derwent Valley Railway for instance (formerly the Derwent Valley Light Railway). This must still be the nearest thing in England to an American short line. It is privately owned (quite uniquely avoiding take-over both in the 1923 grouping and 1948 nationalisation), it uses ex-BR diesel shunters, and serves the freight requirements of on-line customers dealing in coal, concrete products, grain, and fertilisers. It interchanges with BR at Layerthorpe. All the freight stock is from BR. Of several other famous light railways, the Kent & East Sussex stands out. Physically this was much





Much light railway stock was second-hand from the big companies — or sometimes leased or borrowed. **Below:** *In the old wooden loco shed at Kinnerley, Shropshire and Montgomeryshire Railway, stands an ex-LNWR DX class loco, still with its LMS smokebox numberplate (Lens of Sutton).* **Bottom:** *Ex-GWR steam railcar in service on the Nidd Valley Railway (Photomatic). Pictures are dated about 1937.*

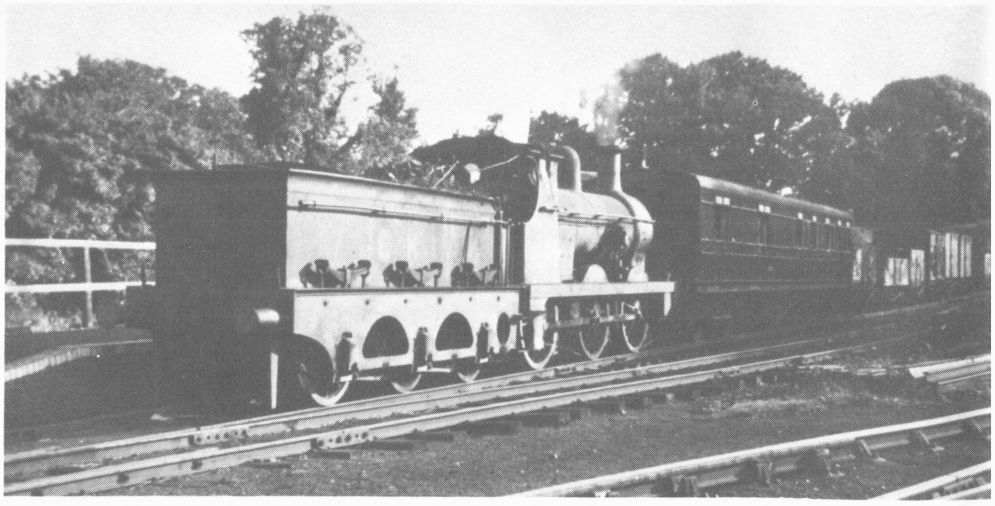
like an American short line in looks, operating in similar style. Mixed trains with a single brake/3rd coach were the order of the day. In the old days, when Col Stephens owned the line, there was a unique collection of motive power, including petrol railcars. In later days the K & ESR was taken over by BR(S) but it still operated the same way. A 'Terrier' and Class 01 0-6-0 were among the motive power allocations to the line under SR/BR management. The line closed in 1961, but it still runs today with preserved stock, having been 'rescued' since 1962 by an enthusiasts' society. Hence visitors can still get a good flavour of light railway operation on the K & ESR, though like most preserved lines it is much more busy and crowded than it ever was in the old days. However, John Scott-Morgan's picture selection here gives the authentic flavour of the line as it was.

By contrast the Derwent Valley Railway can serve as the prototype for a modern light railway, though it also has a history going back to 1911 when steam trains and passenger operations were featured. The long history of the line is well told by S.J. Reading (for many years the general manager) in *The Derwent Valley Light Railway*, published by Oakwood Press, and this comes right up to the end of the 1970s and into the diesel era.

Naturally there were many others, among them the Cleobury Mortimer and Ditton Priors Light Railway (which had a GWR flavour), the East Kent Railway, Weston, Clevedon, and Portishead, and Shropshire and Montgomery. All these, and a good few more are outlined in another Oakwood Press book *Minor Standard Gauge Railways*, so there is no shortage of other lines for inspiration, and histories exist of many of them.

Modelling light railways is by no means a new idea. Most narrow gauge lines are light railways in legal terms, though in the modelling world they've become a separate subject. In the standard gauge field, John Ahern's Madder Valley Railway was one of the most famous – you can still see it today at the Pendon Museum. Indeed, the whole Madder Valley was so plausible that you felt you could find your way around it if you were suddenly miniaturised and put down in its streets! The Madder Valley Railway layout period covers the 'golden age' of the 1920s and 1930s (though they were scarcely 'golden' times for the owners of light railways, only from the nostalgic point of view!).

In addition to this specific era, you can get into light railway modelling at any later period too. For modern times a line like the Derwent Valley would be fine – just one or two Lima or Wrenn 08/09 models and modern BR freight stock would suffice. Choose a name and a simple loco colour scheme and away you go. For other ex-BR shunters you would need to kit-build, but Piko and Fleischmann both make good small modern diesel industrial shunters which look quite 'British' for a freelance line. On a modern light railway set-up your fiddle yard will be the BR interchange, and if the fiddle yard is visible you can still have a big BR diesel loco present to signify the BR connection. If you prefer the steam age but don't



A mixed train of some length is seen at Shepherdswell starting out for Canterbury on the East Kent Railway in August 1947 when traffic was quite busy. Loco is an 01 class 0-6-0 lettered EKR, with an ex-LSWR bogie brake/3rd for passengers (J. Harris).

Evening along the Rother Valley . . .

Twenty minutes late, the down Hastings stopping train, headed by a 'Schools' Class 4-4-0, coasted its way over the smooth permanent way that snaked its way southward from Tonbridge to the coast.

The gentle click clack of those wheels on the joints south of Tonbridge Wells Central, as we headed out into the last light of that winter's day, had a quiet re-assuring calming effect, as I nodded off in a peaceful slumber. It seemed all too soon when the train eased into the platform at Etchingham and as if a moment later the train again slowed as we approached Robertsbridge, passing the yard and outer home signal, with its blue spectacle giving the right of way, and all of a sudden we were in the platform, with its dimly lit electric lamps, which cast a shadowy light across the tarmac platform surface. Within a minute or so the main line train had departed into the night taking with it that warmth and re-assurance that only a corridor train has, the sound of the 'Schools' Class echoing up the rising grade as the locomotive ran south hauling a string of yellow lit Maunsell corridor stock behind.

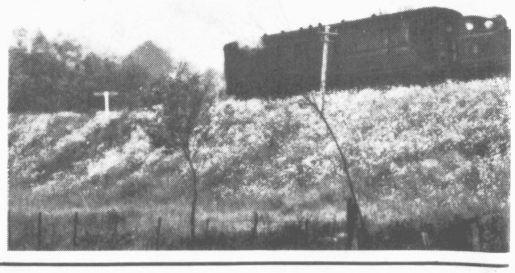
The station building was well lit and looked very inviting on that cold winter's night as I walked up the empty platform. I entered the main hall and sat waiting for my connection to Northiam. Presently after about twenty minutes the sound of a train could be discerned in the distance, and presently it was announced that the connection from Tenterden Town had arrived. I gathered my bags and walked up the platform towards my first sight of the gypsy train that was to transport me to Northiam through the inky black of the night.

The little Emmett-like 'Terrier' locomotive ran round its solitary ex-LSWR bogie corridor brake/3rd, and we were soon ready for the road. A young fireman changed the headlamps on the locomotive as we simmered in the bleak dimly lit station platform.

After a little while a guard gave a short blast on his whistle, and we were soon on the move, across the yard and then veering off sharply to the right, away from the main line towards Salehurst, the little Brighton tank making a profound effort to climb the short rise between Robertsbridge Station and Hudson's Mill. A pillar of white steam rose skywards above the wintry bare trees that lined the embankment. We crossed the road and continued along the Rother Valley, the train settled down to a gentle pace until we reached an empty platform in the middle of a wood, Salehurst Halt served two houses, a pub and a church. Nobody left or joined the train and we were soon on our way.

It was starting to drizzle as we passed through the hop fields near Junction Road Halt; the lights of the bogie saloon danced with the fleeting shadows of the frames and the hop plants in the adjoining fields. We briefly halted at Junction Road and then proceeded to Bodiam along the banks of the River Rother, past the Guinness hop fields and across a number of culverts, until in the distance the white bleached walls of Bodiam

A memory of the light railway age



fancy converting or scratch-building, then do what the K & ESR and DVLR did in the 1940s and 1950s and have a main line company provide the locos or even operate it. A Mainline J72, Airfix 4F, or Hornby J52/J13, or other small favourite locos would be ideal and not inappropriate. This is another analogy with American short lines where a big company either owns or part-owns the line, or leases out the motive power to it. The main thing is to keep everything plausible, and this really means quite simple and run-down too! However, as it is the limited space modeller most likely to get into light railways, the simplicity should be built-in to the set-up. Obviously light railways lend themselves to any scale, but they are particularly suited to 00, 0, or 1 gauge.

As with American short lines, light railways were really full-size 'freelance' operations, which is why they lend themselves so nicely to modelling. For a solo operator or the small space modeller who wants a simple life the light railway is ideal. You don't have to pretend that your models are just a small part of a much bigger organisation, like BR. What you own *is* the whole system. Two locos, say, and a small engine shed constitute the entire motive power dept. You are the general manager and you can decide the on-line customers and the density of operation to provide the 'revenue' that keeps the company solvent . . . this is rather easier than having to balance the books on a real light railway! And the fiddle yard is the junction with BR, SR, LNER, or which ever main line company you favour. To show you the idea the K & ESR station plans and pictures in this issue should enable you to make a start. With only one small loco, a single short coach (it could be a four-wheeler) and half a dozen wagons you can be on your way to light railway modelling.

Signals and signal boxes can be dispensed with (though the K & ESR had the odd hand-worked signal), and turn-outs can be hand-worked too as that usually happened in real life. The space saving possible with a K & ESR type of line is quite considerable. A typical small passing station in 00 gauge could be modelled complete in only 3½ft or a little less bearing in mind the platform need be no more than 10in-12in long, and a passing loop 2½ft long would be adequate for a train comprising a small 0-6-0T, short coach, and a couple of wagons and vans. On lines like the K & ESR, DVLR, and others small compact stations with short platforms (often also very low) were and are prototypical, in contrast to ordinary branch lines where stations are often spread out over a long area with very long platforms to match. If you seek a real physical difference between a standard branch line and a light railway this matter of station size is a notable one, and it is an area which makes a light railway well worth consideration.

Next issue we'll start modelling a light railway layout! If you want to join in then, start getting together some stock and at least one small locomotive of the sort previously suggested. Choose your period, past or present, for the layout we are doing will suit any time or any place.

Light railways in Britain, like short lines in America, needed on-line customers as a source of revenue. The yard at Hudson's Mill, showing the sidings into the flour mill loading bay and storage siding, is a classic of its kind on the Kent & East Sussex Railway. Photo was taken on June 11, 1961. Note hand-operated Y-turnout in foreground. Any light railway layout should include 'customers' like this (Tom Middlemas)

Castle loomed up, the moonlight glinting across the turrets and picking out the battlements in the black night. We slowly cantered into the platform of Bodiam station. A group waited on the platform to join the train. The 'Terrier' braked gently and waited the road to Northiam, while passengers boarded and the Station Master loaded parcels into the brake; steam slowly drifted in the night air in a white whisp of vapour.

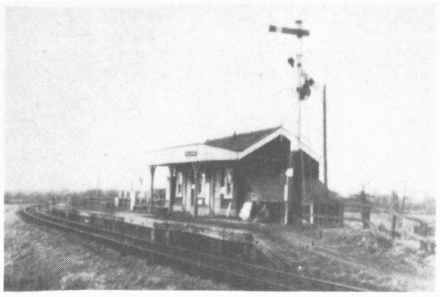
A whistle from the locomotive suddenly broke the silence and we were, in a moment, in motion again rolling through the dark fields of hops, past ghostly silhouettes of wintry trees with only the occasional telegraph pole for company. The wires of the boundary fence play tricks with the light of the locomotive's fire as we plod along the valley towards Northiam.

The beat of the little 'Terrier' makes a brave sound in the stillness of the cold night, the chatter on the bullhead rails and bounce on the rail joints. All too soon we approach the yard at Northiam over the points and into the empty platform. I departed my compartment and walked up the platform standing only for a moment to watch the little train depart away into the night, through the hedgerows and empty fields on its way to Tenterden. It had been quite an evening.

John Scott-Morgan

The train on the steep embankment between Robertsbridge Station and Hudson's Mill. Note the SR type rail-built home signal.

Tolleshunt D'Arcy on the Kelvenden and Tollesbury Light Railway is a typical small station. Note very low platform, barrow upended, and old 4-wheel coach body (with station name) as an extra waiting room. Hand-operated turnout with white rodding should be noted (Lens of Sutton).



Frittenden Road Station in 1936 showing the slotted signal and the timber platform facing. Pedestrian access is from the path at right, up the platform ramp. Note goods siding behind platform and sharply curved track (Lens of Sutton).

THE KENT & EAST RAILWAY

John Scott-Morgan takes a look at a classic light railway

The Kent & East Sussex Railway was one of Britain's most famous light railways. Opened in 1900 as The Rother Valley Railway it originally ran from Robertsbridge on the South East Railway's London-Hastings main line, to Rolvenden, originally known as Tenterden before the line's extension up the 1 in 50 gradient to the Town's new station in 1905. This coincided with the extension of the line to Headcorn on the SER line to Dover in the same year, together with the change in the name of the railway from Rother Valley Railway to Kent & East Sussex Railway.

A description of the line would begin at Robertsbridge where the Company had its own bay platform; the goods yard was shared with the Southern Railway which owned the goods shed. The joint goods yard radiated out on the eastern side of the Station. The K & ESR however had no run round facilities at Robertsbridge Station having to back trains out into the reception yard to run round.

After leaving Robertsbridge the line turned sharply to the east, on a steep incline that descends to a level crossing at Hudsons Mill. Here the K & ESR had sidings that ran into the mill for the flour traffic. From here the line ran level for ten miles or so, passing Salehurst Halt, Junction Road Halt, Bodiam and Northiam Stations. At Salehurst the halt only consisted of a sleeper built platform. At Junction Road a concrete platform existed; both these halts had no buildings. At Bodiam a typical Colonel Stephens' station exists with corrugated iron building and wood awning supported by three wooden pillars with struts at the top. All the stations on the line had men's lavatories only. Both Bodiam and Junction Road served the local hop farms. Three and a half miles on bring you to Northiam, outwardly similar to Bodiam, but with a run round loop and a second platform originally which was later removed. From here the Line crosses the Rother Valley and across a 66ft span bridge which takes the line from East Sussex to Kent until we reach Whittersham Road. This station had its building at right angles to the platform and also had no awning. Across Potmans Heath and due north we reach Rolvenden, the original Tenterden Station of the line. Here the company had its workshops and locomotive shed. From here we ascend a 1 in 50 incline to Tenterden Town Station which is located on the far west of the town; we are now 14 miles from Robertsbridge. Quite unlike the rest of the line Tenterden Town Station was a brick building with two platforms. Tenterden Town Station acted as half way point on the line, and trains from both Robertsbridge and Headcorn terminated here. The railway from Tenterden Town to Headcorn was technically regarded as a completely separate extension line.

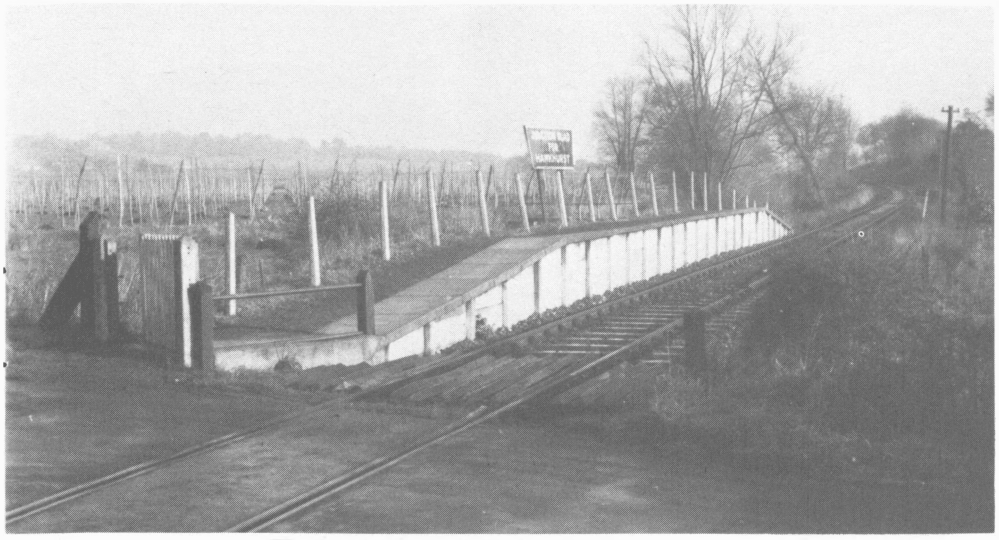
The Headcorn extension was opened to traffic in 1905 and this part of the line had quite different features from the Rother Valley Section. The stations were built of timber rather than corrugated iron, or brick; however, all the platforms were constructed of brick or concrete.

The section from Tenterden Town to Tenterden St Michaels Halt ran through the back of the town. At St Michaels there was a wood and brick platform, without a building. Also at this point the line ran through a short tunnel. North of here the railway ran through stations at High Halden Road, Biddenden, where there was a loop and a second platform, and Frittenden Road, before arriving at Headcorn Junction, where the Line had its platform on a curve. The Railway's mileage at this point was 24 miles. The northern part of the Line served the hop

Could any sight better capture the light railway scene than this delightful view? Here we see the 01 class 0-6-0 and ex-LSWR corridor brake 3rd at Tenterden Town in 1953, when BR ran the K & ESR. Note the three-arm signal and the whistle notice, the cattle grid, tender-first running, and the bucket on the tender side. The smallest of model layouts could re-capture this sort of operation (E. C. Griffeth).

SUSSEX

Headcorn Junction varied between the original flat bottom rail, dog spiked to wooden sleepers, to ex-SER double headed bullhead rail. However by the mid-1940s the complete railway was relaid in 901b bullhead rail. The reason was to enable the line to be used as an alternative route in case of emergencies. Some of this bullhead rail came from the Elham Valley Branch in Kent. At



Junction Road Halt, for Hawkhurst, which was a good four miles away, here seen in 1953. This could be modelled complete from the Airfix station platform kit plus some Ratio fencing. Note the ungated level crossing (Lens of Sutton).

fields and farming communities of Southern Kent.

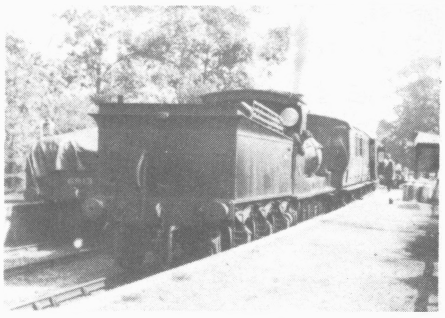
Signalling on the line consisted of a mixture of wooden posted lower quadrant types and some rail built upper quadrant signals at Robertsbridge and Headcorn Junction. There were however some odds and ends. At Tenterden Town Station there was a unique three arm signal on a lattice post. Also at High Halden Road Station there was an equally odd slotted signal with a double arm; a similar type with two arms on different parts of the post existed at Frittenden Road. At Rolvenden there were small shunt signals on short posts located near the large water tower. Most of the stations had home starter signals at each end of the approach lines from Robertsbridge and Headcorn. At Biddenden there was a ground level shunt signal used to signal the goods yard.

The permanent way used on both the Rother Valley section and the line through to Tenterden and Headcorn Junction there were wind pumps to raise water for the water towers of which examples existed at Headcorn, Tenterden and Rolvenden. At Robertsbridge the company used the Southern water tower.

Water cranes were provided at Robertsbridge where the company again used the Southern's facility, an ex-SER double type, with two hoses. At Rolvenden the company had a rather makeshift looking example which still existed until very recently. Also at Tenterden there was a small water tank next to the three arm signal. The facility provided at Headcorn was located about half a mile south of the station. This consisted of a collection of water tanks and a wind pump which was still in use in British Railways days.

The Company owned an incredible collection of locomotives and rolling stock over the years which will be dealt with in a later article. Equipment ranged from old second-hand Brighton 'Terrier' locomotives, to a collection of second-hand saddle tank locomotives and some new equipment built when the line was first opened. The rolling stock consisted of four-wheel and bogie carriage stock. In addition to this the line had a fleet of new and second-hand goods wagons.

The K & ESR lasted six years into nationalisation as a passenger line, closing to passenger traffic on January 2, 1954, after which the line from Headcorn Junction to Tenterden Town station was lifted. The rest of the Line continued as a freight only operation until June 12, 1961, when it too closed. Today the section from Tenterden Town to Bodiam is being restored as a tourist preserved line, the K & ESR Preservation Society taking it over in 1962. For a more detailed history of the line you'll find a book on the K & ESR in the Oakwood Press series.



Ex-LSWR 0-6-0 'Juno' and train of ex-GER 4-wheel stock at Northiam Station in 1925, showing the second platform on the left. Note also the large amount of milk churns stacked on the platform, a reminder of the importance of this traffic as a source of revenue in those days (H. C. Casserley).

Bodiam Station in 1935, showing the corrugated iron station, painted light brown with the windows/doors in chocolate. The goods yard is behind. Note the hop fields and the plate layers trolley. Hop traffic was another source of revenue, as was carriage of the hop-pickers (mostly families from London) in the season. Enamel adverts adorn the fence and the platform is low (Lens of Sutton).

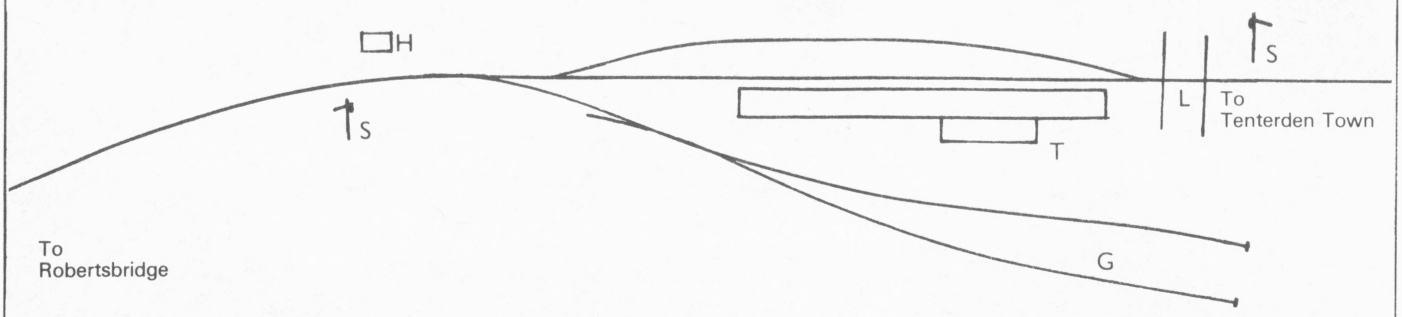
More pictures on next page

A1 'Terrier Class 0-6-0T and mixed train at Robertsbridge Junction on March 27, 1937, showing the K & ESR bay platform and goods yards to the right. Model layout could reproduce the bay only for running purposes with a static SR train beyond representing the main line (Tom Middlemas)

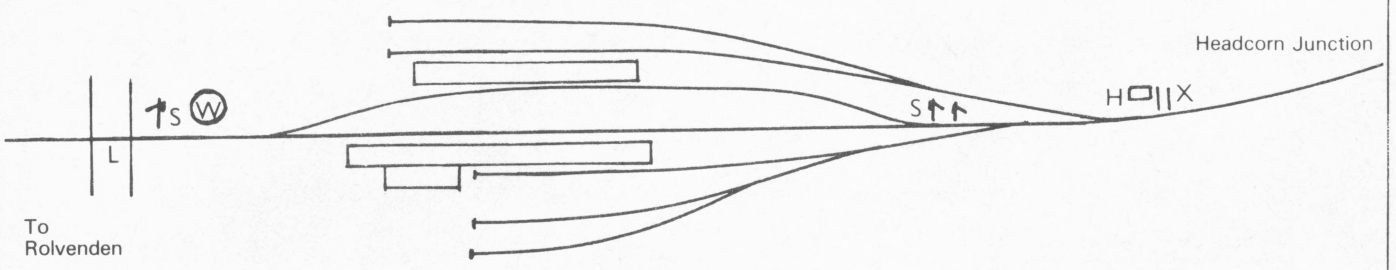
Rolvenden Station building in 1953, showing the raised platform for newer carriage stock and the makeshift water crane. Note corrugated iron structure, including the shed on the platform. This is in BR days (HMRS).

Not to scale

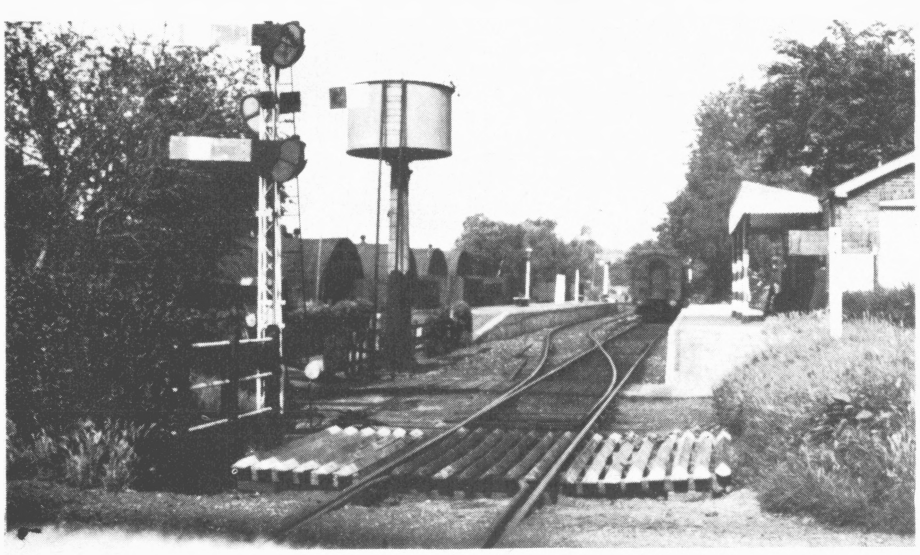
NORTHIAM STATION



TENTERDEN TOWN STATION



These two sketches show typical K & ESR station track plans — not to scale but sufficient to show layout. For Tenterden compare the sketch with the pictures below, all from different angles. Key to features: L-level crossing, S-signal, W-water tower, H-lineside hut, X-PW trolley store, G-goods sidings and yard, T-station yard. Northiam in particular, would be a good subject for a simple terminus-to-fiddle yard layout — put a buffer stop at either end to suit.



Left: *Tenterden Town Station from the level crossing, showing both the platforms and building. This picture taken in 1947 shows the three arm signal, the water tower and the line of Nissen huts built by the Ministry of Food during the war; also in the distance one can see the remains of the water pump. Compare to diagram above, from left side (Lens of Sutton).*

Bottom left: *Tenterden Town Station in 1947 looking towards Rolvenden. A good picture that shows clearly the station small fittings, and also a mixed train comprised of a coach and a loaded coal wagon. Note local coal merchant at right loading his truck from the wagons (H. C. Casserley).*

Below: *This is Tenderden Town Station back in 1907 with A1 'Terrier' class locomotive No 5* Rolvenden *and train of Pickering short bogie coaches — very smart. Note the old tarpaulin wagon with rounded ends and the baulk of timber acting as a buffer stop in the near siding. The station changed only in small details over the years.*

Mixed Train Daily

The development of the standard gauge Light Railways of Britain following the passing of the 1896 Light Railways Act was in many ways the last phase of the railway development of this country.

To many people these rural lines are regarded as quite amusing, and even hilarious, in operational terms. However I feel that the same individuals often fail to understand the importance of this latter development of these systems.

Before the advent of the rural motor bus and the roal haulage companies, the likes of which boomed after World War One, light railways almost held the transport monopoly in many rural areas. Also they were a major employer in farming districts where work was hard to come by.

The various lines came in all shapes and sizes. On the railways managed by Colonel H.F. Stephens there was a loose form of standard practice with types of locomotive common to most of the lines, both standard gauge and narrow. Buildings on these systems had a standard look with stations of a basic type that had awnings supported by three supports with V shaped tops. On the independent lines there was always a strange mixture of motive power, rolling stock and installations.

The Light Railways Act relaxed the legislation for the construction of rural lines. This meant that most of the lines were built as cheaply as possible with un-gated level crossings, lightly laid track, basic station buildings; most of these railways had little or no signalling, operating on the staff and ticket principle.

The train formations were equally interesting with often an 0-6-0 tender or tank locomotive coupled to a long string of mixed goods wagons with an ex-main line bogie carriage on the end of the train. At off peak times a tank locomotive would often work a train of only one 4-wheel or bogie brake carriage.

Light railways served a great variety of industries. The Corringham Railway served the explosives factory on the south coast of Essex while the Nidd Valley Railway was owned by Bradford Corporation and operated only until a project to build a dam was in existence. The Easingwold served a rural area near York.

The Colonel Stephens group were in the main railways that served rural communities. However, the East Kent Railway did serve an extensive colliery at Tilmanstone which is still in use today. The Kent & East Sussex, on the other hand, ran across country and acted as a valuable alternative east to west link, especially during World War Two.

There are many kits and ready-to-run locomotives and stock that could form the basis of a compact layout of a light railway; this could quite easily fit into a small space or act as a portable layout.

Suitable locomotives would be A1 Class 0-6-0T DX Class 0-6-0 tender locomotive, Victory Class 0-6-0 E1 Class 0-6-0T or D1 0-4-2T, GWR Dean Saddle tank, L & Y 0-6-0ST 0935 LSWR 0-6-0 tender locomotive, to name but a few. For carriage stock Ratio produce some fine examples of both 4-wheel and bogie vehicles. **J.S:M.**

The Light Railways Act 1896 and its effect

No Act of Parliament had ever before been responsible for such a profound change in rural development than that which followed the passing of the 1896 Light Railways Act.

The change to rural life caused by the Act, was followed by a continued economic growth that far outstripped anything that had taken place in the decades before the Act had been passed. The areas of Britain that benefited directly from the legislation were those parts with newly constructed Light Railways and Tramways. Under the new legislation, a body known as The Light Railway Commission was set up to openly discuss light railway proposals, and hold enquiries into light railway construction; under this system Light Railway Orders were either refused or granted. The Commission toured the country, and held enquiries, wherever a proposal for a light railway was put forward.

The amount of paper work which led to the setting up of one of these Commissions could be quite phenomenal. Indeed it was not unknown for a hearing to go on for a very long time, without any direct result. This perhaps accounts for the lack of minor railway construction in some key areas where one would have thought they would obviously have benefited directly from this kind of transport system.

The 1896 Act not only applied to steam or internal combustion operated systems, but also made provision for a new medium, that of electric power and led to the greater development of the urban electric tramway. From the late 1890s to the early 1920s the Act provided the legislation for most of the last phase of Britain's railway boom. It was as a direct result that lines like The Kent & East Sussex Railway (formerly the Rother Valley), The East Kent, The North Sunderland, the Lynton and Barnstaple were built. However, even though the new Act existed, lines of a minor nature were still being constructed using old legislation that predated the Light Railways Act. The Hundred of Manhood and Selsey Tramway was privately built on privately owned land. The same situation existed on the Rye and Camber Tramway and a small number of other lines.

In the former case, The Selsey Tramway became legally recognised in 1924 with the passing of an Act which made the company The West Sussex Railway, for which the Railway Construction Facilities Act was used.

There were certain personalities who made great use of the Act, one obvious individual being Colonel Holman Fred Stephens, who built most of his light railway empire with its almost continual use.

The Act specified basic requirements for construction of minor lines. Among the more important items listed were guide lines to newly formed companies pointing the way to greater economy at the construction and development stage. Some examples of this are the regulations governing level crossings, which were in the main un-gated, the sparse usage of signalling and the extensive use of the staff and ticket method of line control with the use of one locomotive in steam. On the engineering side the benefits of the Act and its effects were boundless. The reduction in the cost of building most lines could be brought down to 75% of the cost of normal construction.

The works on these lines including embankments, cuttings and the main road bed were normally of earth, of slack, ash ballast, with a hardcore centre. Stations were often built using corrugated iron or wood for the buildings and a basic brick faced platform with an ash ballast platform. Permanent way could vary from heavy main line standard bull head rail on chair track, to light flat bottom rail on dog spiked sleepers. There were also some anomalies in sleepering as a number of companies favoured steel or concrete sleepers rather than wood.

In the main, most of the Light Railways, especially the narrow gauge ones, had full workshop facilities which could tackle the heaviest job and some performed some quite remarkable feats of mechanical engineering. On the whole the British Light Railway was in most senses of the word, almost totally self sufficient. I say almost, because in some cases there were times when locomotives and other equipment were sent away to a main line workshop for extra heavy work to be done. Examples of this can be found with The Southwold, Welshpool & Llanfair, Mid Suffolk Light, and a host of others.

A number of main line companies promoted and built lines under the 1896 Light Railways Act, examples being the Kelverdon and Tollisbury built by the Great Eastern, and The Basingstoke and Alton, built as a block line to keep the Great Western out of London and South Western Territory.

Main line companies made use of the Act on a number of occasions up until the early 1930s, and a few of the outstanding branches owned by the Big Four were built using its powers.

That the Act with its amendments in 1901, 1906 and 1912 had a great effect on rural life one cannot deny. Few pieces of transport legislation have ever caused such a dramatic change in social and economic attitudes before or since, in the British Isles, and few are likely to do so in the future.

Getting Stoned

The seaside is a good place for studying real rock formations — and it is a good place for finding small pieces of rock which can be used as moulding masters.

Allan Dare describes a simple way of making convincing rockfaces

It's a fair guess that the majority of model railways run through hilly scenery. The reasons are not hard to find. Hilly and mountainous areas are picturesque; they justify short trains and sharp curves and they give rise to interesting traffic such as stone and slate. The only trouble is that they take up space – precious stuff on any layout! Therefore, we have to give the impression of hills, and represent their character rather than their size. One of the most effective ways of doing this is to model rock faces, such as those seen in quarries, steep-sided cuttings, cliffs and outcrops. So, whether you model the old L & Y threading its way through some smokey Pennine valley, a GW branch wandering through the Welsh Marches, or even the Rio Grande piercing the Rockies, rock faces will enhance your layout.

The traditional way to model rock faces is by using cork bark. This has the advantage of simplicity, and is readily available. Unfortunately, it does not always look very much like the real thing, and will certainly be of little use if you wish to make your scenery follow the geology of the 'real' area you are modelling. One way of making rock faces that really works, however, is to make rock castings, and this can be remarkably simple.

The first task is to find out details of the kind of rock face you wish to simulate. Personal observation is invaluable here; if you can't get to the area you are modelling, try one nearer to home with similar characteristics. Alternatively, do a bit of book research. Your local library will have many books on geology, regional geography and local history. A good school textbook on physical geography will give most of the details you need on rock formations, such as where they occur, and what they look like.

The next task is to select some 'masters'. These are lumps of material from which the moulds can be taken. They should look like scaled-down versions of the real rock you wish to portray. Many materials can be used – real rock, slate, coal, even pieces of board. More often than not, the best masters will be made out of very dissimilar materials from the real rock – for instance, a piece of crushed stone will often be rounded, and not have the craggy look of a real rockface. The important thing is to get the right texture, that will show evidence of the correct rock for your area. My own layout is based in the limestone uplands of the Pennines, so I favour lumps of coal. These are stratified just like real limestone (after all, they were formed in a similar way) and careful selection can result in some very nice castings.

Having selected the right kind of material for the masters, find some pieces of the correct size. I find 2in – 3in square suitable; this allows for quite small outcrops, yet can be easily butted together to make bigger ones. Prepare the master by removing any surplus dust; if it is coal, this can easily be done by washing it. This removes any small particles which would spoil the mould. It is also best to break off any bits which overhang, as they will make it hard to remove the mould later. Then place the master on a flat surface, where it can remain undisturbed.

The mould itself is made from Humbrol 'Maskol' or something similar. This is a liquid latex, intended for masking models when spray-painting. However, being in effect liquid rubber, it is ideal for making a pliable mould, capable of holding detail to a fine degree. Making the mould is simplicity itself. Brush a coat of Maskol all over the area which you wish to be cast, and down over the sides to a depth of ½in or so. Don't go less than ¼in, as the casting will be too thin, or over ¾in, as it may then become difficult to mount into your scenery. Once the first coat is set, add another incorporating a sheet of tissue in to it, to act as a strengthener. Repeat with a couple more coats of Maskol; 3 – 4 coats should suffice for a strong yet pliable mould.

Once the Maskol is *thoroughly* dried (best leave it overnight), peel the mould off the master. Then give it a good wash, to remove any dust, etc which it may have picked up off the master (coal is especially bad for this).

To make a casting from the mould, first mix up some plaster, making it rather sloppier than normal. Ordinary Polyfilla or a similar material will work equally well. Pour the plaster into the upturned mould, making sure that it doesn't spill over the edge, and that any loose edges of the mould do not get folded into it. Fill the mould nearly to the rim with the plaster, and then give it a good stir with a cocktail stick. This will bring to the surface any air bubbles, which would otherwise result in the castings having a pock-marked look. Then leave for a couple of days, until all is set hard.

This photo shows an upturned mould and one filled with plaster. The two finished castings are painted grey in order to stand out more clearly.

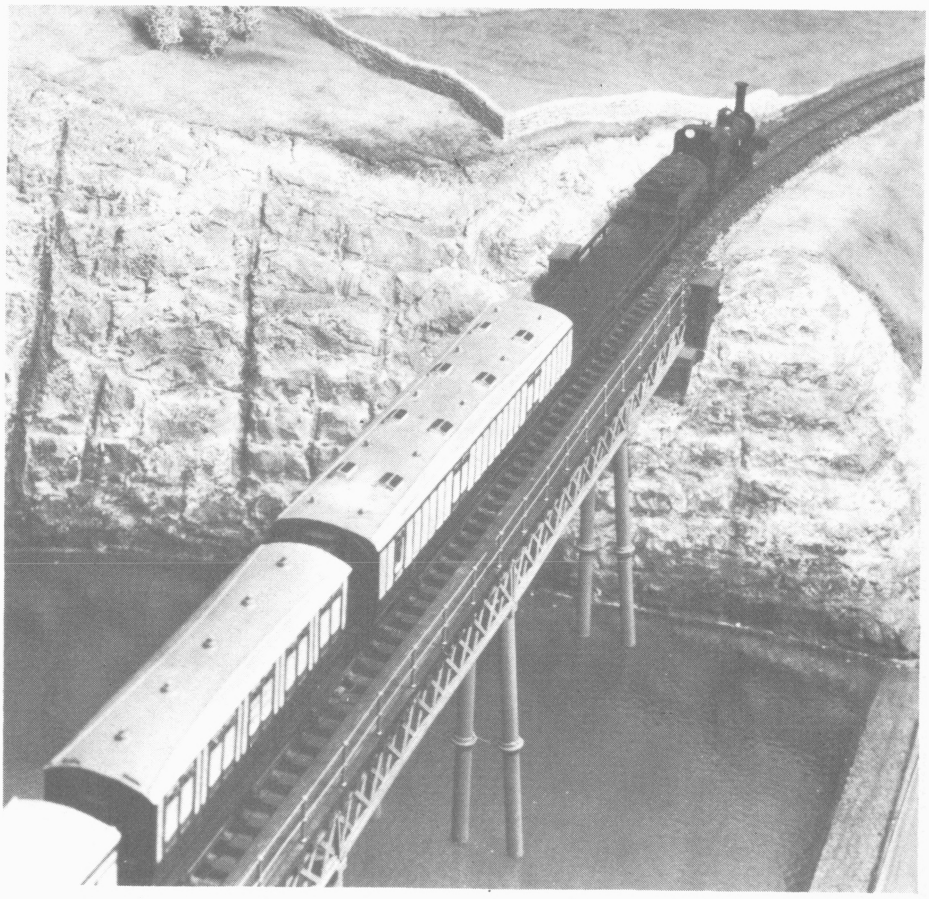
The making of both the moulds and the castings is suited to a production-line technique, so make several of each at once from different masters. This is less wasteful of materials, and useful if you are assembling a large rockface. Of course, each mould can be used many times over, and with careful siting, the repetition of the castings will not be obvious.

Once the plaster is thoroughly dried, carefully peel away the mould. The result will be a casting of the original coal, etc, which not only looks like but has the texture of 'living rock'. Don't forget to give the mould a good wash to remove any dust, and dry it well before re-use.

The castings can be used in several ways. Individually, they can represent small outcrops, such as those seen in mountain fields, or in the sides of cuttings. Cliffs, quarry faces, etc, can be modelled by assembling several castings together, by glueing them on to a backing board such as a sheet of balsa wood. The castings can be blended into the surrounding scenery using more plaster, which can also be used to fill the gaps between individual castings. If needed, it can be carved with a screwdriver to give continuity to the rock. Most important, make sure the stratification is right. All the rocks in any one area should be aligned the same way; if they are given a 'dip' – ie the strata slope at an angle – it will look most realistic.

The castings are coloured with a thin wash of paint, either water colour, or dirty turps with a dash of colour in it. Make sure you have the right colour for 'your' bit of country, as this can vary enormously. Limestone, for instance can be anything from white, through various shades of grey, to brown. Some rocks even look green, due to algae which grow on them. As a final touch, put patches of grass on any of the horizontal surfaces, a fringe of vegetation overhanging the top, and undergrowth around the base (of course, this wouldn't apply on a freshly blasted quarry face!).

That is all there is to making rock castings. However, the same technique can be used wherever you need to make a number of detailed repetitions of a textured surface. As an example, you could make dry-stone walls, by making moulds from an original hand-made master. However, where you are making such relatively thin castings, or wish to reproduce finer detail, you may have to use a harder, quality casting material, such as plaster of Paris or dental plaster.



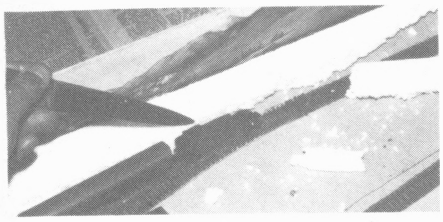
Above right: *Rock castings in place on the layout. Note how the vegetation is 'growing' around the rocks.*

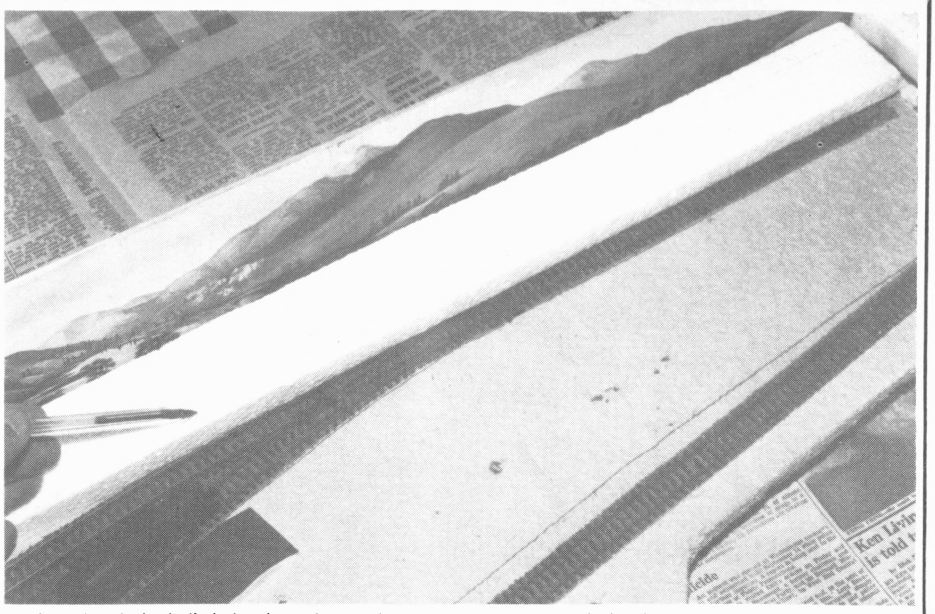
Centre right: *Ross Pochin's famous Furness Railway layout demonstrating the sort of scenery where modelling rock faces can be really effective (Brian Monaghan).*

Right: *A photo of a limestone rock outcrop on the old Cromford and High Peak line in Derbyshire. If you look around your own district you will notice the enormous variety of geologically differing areas and the vast potential that this can offer to the modeller.*

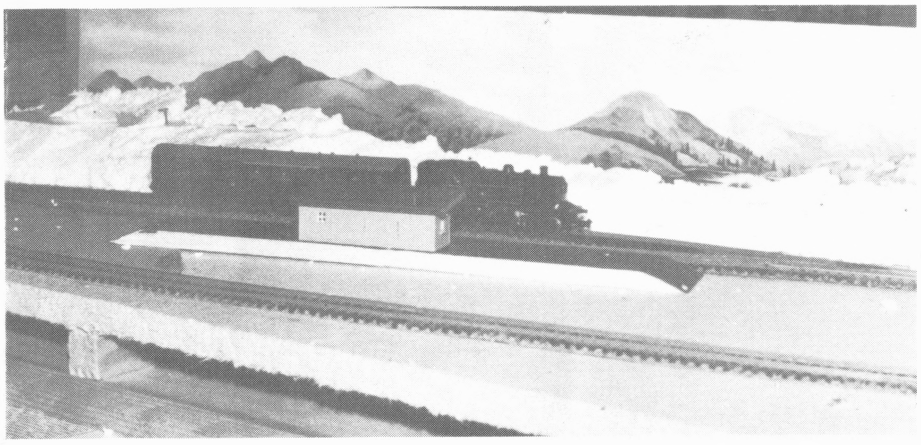
Loch Tay in N scale

A compact layout which takes up minimum space – build it with us!

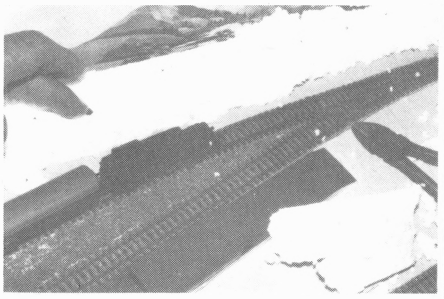




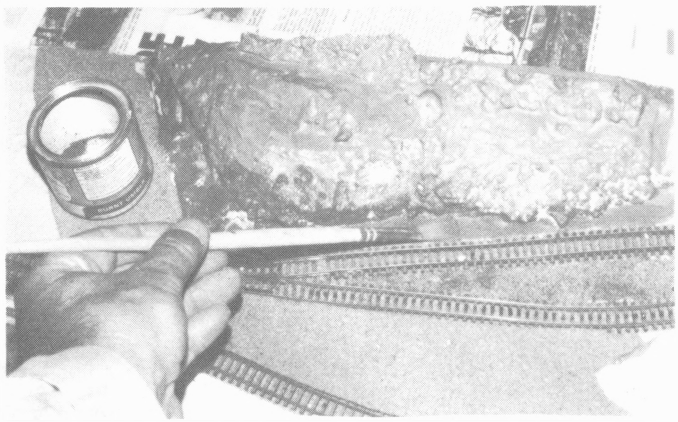
Above, right: *With this sort of narrow shelf layout there is relatively little landscaping to do. For N gauge expanded polystyrene packing material or ceiling tile is a convenient, light, and easy material to use. It comes as packing with most household goods these days and can be acquired (or purchased as ceiling tiles) quite easily. Pin the backscene temporarily in place, find a suitable length of material and mark out the required shape to make an embankment.* **Above, left**: *Now use an old knife to cut to shape, using a typical train to ensure that clearances are adequate. Keep any pieces which are cut off for future use.*



Continued from the September and October issues



Left: *Use oddments or off-cuts to glue upon the bottom layer to make an embankment of irregular height. White PVA glue should be used. Make the upper contours consistent in height with the hills on the backscene.* **Above**: *Track pins and tacks can be used to pin the material to the baseboard and small pieces to each other to reinforce the glue.*



Upper left: *Now mix either Polyfilla, Artex, or Jack Kine Modelling Compound, with brown and black powder paints added to give it some solid 'ground' colour. Use a spatula or old knife to apply a thin layer all over the plastic, including the back areas which are not normally visible. Add more layers later if you wish to round out the contours, but keep all layers thin. Cover all track work with masking tape or paper before you begin.*

Above: *When the covering compound is set hard (at least 24 hours later) use either acrylics, poster paint, or household emulsion (as here) to paint in the ground colour. We are using earth brown, 'grass' colour, and some beige and grey, the latter to paint in the bare rock cutting surface as is being done here.*

Left: *While the surface paint is still wet you can use dry powder paint in 'grass' green colours and earth brown (here we have Burnt Umber) to apply by sprinkling and light brushing into the wet paint. This gives subtle toning, in the case of brushing, and an actual dry surface texture in the case of sprinkling. In particular grass can be well depicted this way instead of using scatter materials for N scale scenery.*

from page 587

piece is the length required to make the Hornby body a snug fit; any obstruction such as plastic lugs inside the Hornby body are filed flat, and after the shortened chassis has been glued together using epoxy resin, it is then fixed to the body and glued in place. The method has the obvious drawback of making the motor inaccessible for servicing but the bogies are absolutely correct, and the result is quite pleasing. Perhaps other readers could suggest a method of fitting the chassis that is less permanent.

Finally, perhaps we could have a series of scale drawings of BR's 'small' shunters (mainly classes 01-07). As many of these will never be produced by the major manufacturers, they provide an ideal vehicle for scratch-building and kit bashing perhaps using RTR chassis from other locos. I myself would be extremely interested particularly in the NBL shunters (D2700's) that didn't survive for renumbering in the TOPS scheme.

P. Buhe, Linthorpe, Cleveland

Conversion Idea

I read with interest the article on how to make a 117/1 car for an authentic 117 two car DMU set in the July issue of *Model Trains*.

I should like to point out for the benefit of readers intending to make a 117 car that it is possible to convert one of the Lima standard cars by marking out the window positions and cutting these out. The advantage is that you don't have to buy spare cars to cut up and you do not need to saw up the body with all the attendant problems of making neat joints particularly on the roof section.

I cut the extra four windows on one side in less than an hour. Existing windows should be measured and the new window positions should be marked out in pencil. I found that the large windows had to be approximately 2mm down on width leaving approximately 3mm spacing between each window. If you are careful with the cutting out only a minimum of repainting is required on completion.

Finally, I should also like to comment on Richard Gardner's article on the Lima and Mainline 'Warships' in the February issue. I would like to suggest that when the performance of Lima models deteriorated, he should have tried removing all of the black plating from the wheel treads with fine emery cloth, which I am sure, would have restored a smoother running. Most Lima models suffer from inadequate pick up although I agree that quality varies on these models.

R. North, High Wycombe, Bucks

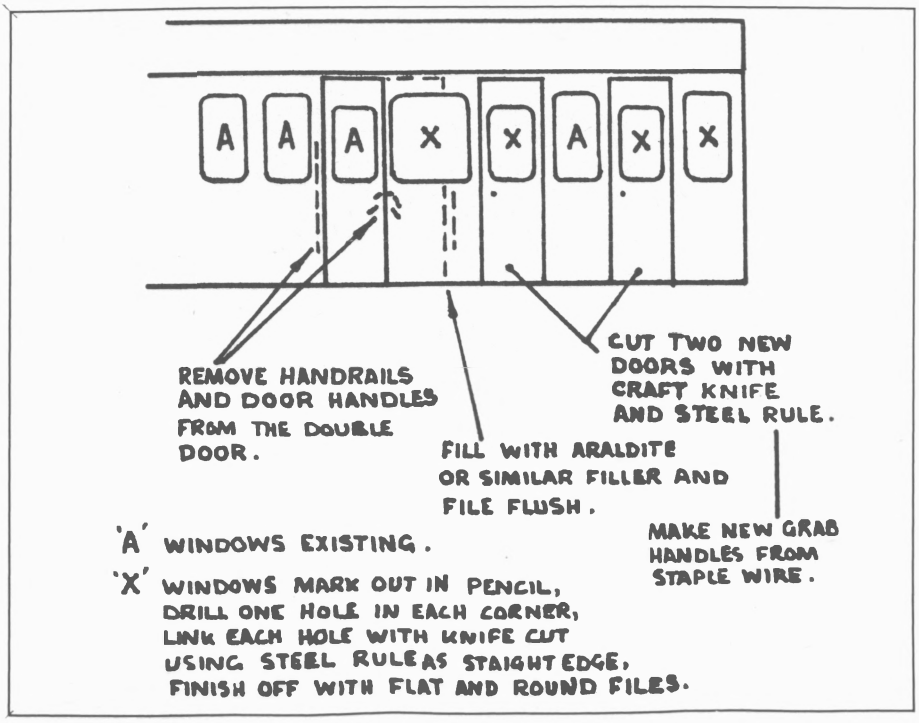
Agreed you can cut out the windows in the guard's van area and it will be a big saving in cost. However, the job needs doing perfectly if it is to look convincing and not everyone can do this. **Editor**

Royal Railfare

The July 1981 issue of your magazine contained a very interesting article about Class 47's. On the cover of this issue you suggested a more colourful livery for this class. I have made an even more gaudy livery which is in OO scale of 47 712 *Lady Diana Spencer* which was my contribution to 'The Wedding'. The basis of this model was a standard green Hornby Brush 4. The cab windscreens were flush glazed by my friend Andrew Payne. I painted the body by hand. The large emblem and numbers were the cause of the headache. Luckily just as I was about to tackle these, a scale drawing appeared in the BR staff newspaper 'Railways'. I was then able to paint these details by hand. The etched nameplates were made especially for me by CGW. I have a liking for 47s and my collection also includes *Great Western*, *Great Eastern* 47 163 with Union Jack and is soon to be expanded with the arrival of *The Commonwealth Spirit*.

Edwin Knorn, St Albans, Herts.

This is Mr North's drawing showing how the windows are positioned and cut out.


A
A
A
X
X
A
X
X
REMOVE HANDRAILS AND DOOR HANDLES FROM THE DOUBLE DOOR.
FILL WITH ARALDITE OR SIMILAR FILLER AND FILE FLUSH.
CUT TWO NEW DOORS WITH CRAFT KNIFE AND STEEL RULE.
MAKE NEW GRAB HANDLES FROM STAPLE WIRE.
'A' WINDOWS EXISTING.
'X' WINDOWS MARK OUT IN PENCIL, DRILL ONE HOLE IN EACH CORNER, LINK EACH HOLE WITH KNIFE CUT USING STEEL RULE AS STAIGHT EDGE, FINISH OFF WITH FLAT AND ROUND FILES.

Societies, Clubs and Exhibitions

Washington Model Railway Club have an exhibition at the Oval Youth Centre, Concord, District 11, Washington, Tyne and Wear on October 24 and 25. 10.00 – 1800 (Sat), 10.00 – 1700 (Sun). Adults 40p. Children/OAPs 20p.

The Cambridge MRS is holding its annual exhibition at the Grove School, Campkin Rd, North Arbury, Cambridge on October 24. 10.30 – 18.00. Adults 40p, Children 25p, Family £1.00.

The Leamington and Warwick MRS are holding their sixth exhibition at the Town Hall, The Parade, Leamington Spa, on October 24. 10.30 – 18.00. Adults 50p. Children/OAPs 25p.

The N gauge society welcomes anyone with an interest in N gauge, and aims to exchange ideas and information to all its 1000 members. They produce a quarterly journal offering advice, discounts, library facilities etc. For more information contact Ken Gardner, 22 York Rd, Rayleigh, Essex, enclosing a remittance of 50p to obtain a copy of the journal and details of how to apply for membership.

Stafford Railway Circle are holding an exhibition at Stychfields Hall, off Wolverhampton Road (A449), Stafford on October 31 and November 1. 10.00 – 20.00 (Sat), 10.00 – 18.00 (Sun). Adults 50p, Children 30p, Family £1.20.

The Southport & District MRS is launching a series of informal seminars, covering all main aspects of the hobby, from September 25 at 36a/38a Market Street, Southport. Topics will include baseboard construction methods, kitbuilding and scratchbuilding of locomotives, modification and improvement of proprietary models, layout wiring, electronic gadgetry, scenic work, researching the prototype, weathering, model buildings, road vehicles for the layout, photography for modellers, exhibition presentation of layouts etc.

Practical demonstrations will be included and further topics will be covered if there is a demand. There is no charge for these seminars and they are open to all members, guests and prospective members. A programme will also be available, again free, on receipt of a S.A.E., from the Hon. Secretary, Mr P. Delnon, 46 Linaker St, Southport, Merseyside, PR8 6RP.

The Elizabethan Railway Society present their annual exhibition at St Michael's Church Hall, Outram Street, Sutton in Ashfield, Notts on October 23, 24, and 25. 18.30 – 21.00 (Fri), 10.00 – 20.00 (Sat), 10.00 – 17.30 (Sun). Adults 45p. Children and OAPs 25p. Family £1.20. Working layouts from Z gauge upwards, film show, photographic display.

Shoeburyness MRC are holding an exhibition at Cliffs Pavilion Station Rd, Westcliff on October 17 and 18. 10.00 – 21.00 (Sat), 10.00 – 19.00 (Sun), 9.00 – 10.00 (Sun) (Disabled only). Adults 90p. Children/OAPs/Disabled 40p (admission free to person accompanying disabled person). Over 30 layouts, live steam, trade stands etc.

SOUTHERN

MODEL RAILWAYS

The Enthusiasts Shop

13 Upper High St., Epsom, Surrey. Tel: Epsom 26620

SOUTHERN BY NAME – NATIONAL BY NATURE
(SR: LMS: LNE: G.W.)

00-TT-N

MÄRKLIN "Z" (MINI-CLUB) & GAUGE 1

GOOD DISCOUNT OFF HORNBY, AIRFIX, MAINLINE, LIMA, FARISH
STOCKISTS OF LOCOMOTIVE & ROLLING STOCK KITS IN 'N', 'TT', '00'
PLASTIC KITS, SCENIC AIDS, ETC, ETC.

SELECTION OF QUALITY TOOLS & BITS FOR THE SCRATCH BUILDER

Closed Monday Late night Thurs. (till 7 p.m.)

TAKE A TRIP BY TRAIN TO

E.N. CARLESS LTD

234 NANTWICH ROAD, CREWE

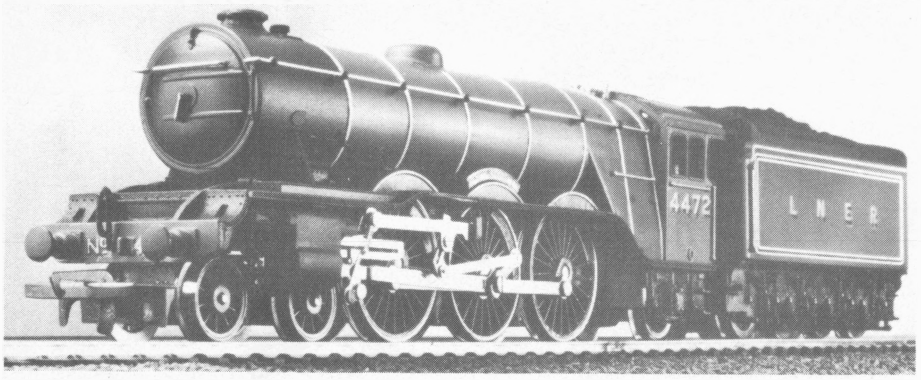
JUST A SHORT WALK FROM THE STATION

Large selections of Hornby, Mainline, Lima, Airfix, Wrenn, Grafar, etc. in stock.
Accessories and Spares available.
Repairs undertaken. Personal service and advice.
Plus Mail Order.
Reductions for Cash Sales.

PHONE NOW! CREWE 213036

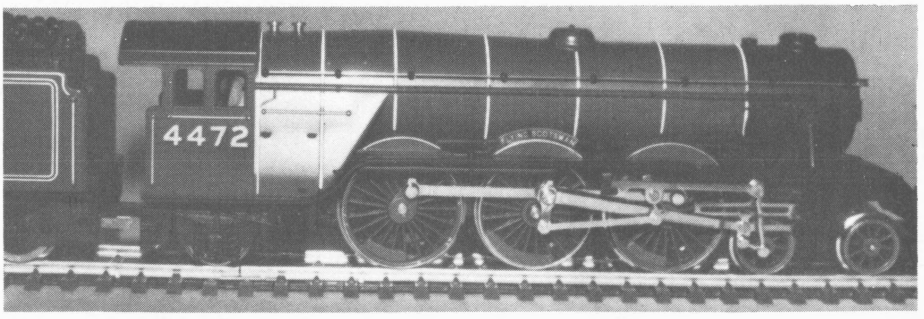
TEST TRACK

In this feature we take a closer look at the selected items which are tested and assessed by the editorial staff or contributors



Hornby: LNER A1 4-6-2, 1:76 scale/OO gauge, UK £27.50

Hornby's output of locos proceeds apace with the promised A1 version of *Flying Scotsman* now released. This is really the 1928 era machine depicting it when the corridor tender was fitted for working the *Flying Scotsman* train. This tender was changed for a non-corridor version when the A4s appeared. The loco also has the brass splasher beading which was fitted for the 1924 British Empire Exhibition. Previously *Flying Scotsman* was modelled by Hornby in its later A3 form. The new model has the A1 configuration, with right hand drive, original cab sides, small dome, and early boiler style. The tender is the same as that provided for the A4 complete with tender drive unit. The body and loco chassis seem to be completely new and the standard of finish and detail overall is very good. In particular the slight misalignment of footplate with tender chassis level is well captured, and if anything is possibly a little exaggerated but the distinctive look is there. Cab and lower firebox handrails are moulded in but look quite realistic while all others are wire. With only minor discrepancies, none really obvious, the model is dimensionally very accurate. The worst feature in visual terms is the cylinder size — inevitably they are too shallow and slightly repositioned to allow the front bogie to swing.



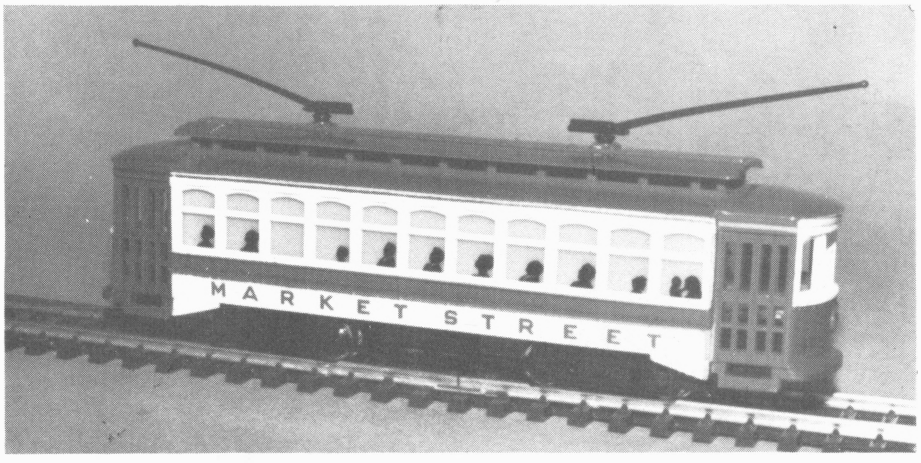
Other discrepancies are of a minor nature. The rear brake blocks are missing, also to allow bogie swing, and there are no sand pipes and no brake rigging though these items could be added as described in previous articles in this magazine. There are no lifting holes in the front frames — again easily remedied — front steps are omitted, the roof clerestory should possibly be a little more prominent, while the early form of corridor tender had a single coal rail which is not modelled by Hornby. Again all these points can be taken care of by the average modeller and imply no real criticism of Hornby who have produced a pretty good replica. Less satisfactory is the cast drawbar which gives a long gap 'twixt cab and tender. A second hole could possibly be drilled to close the gap but it is not an easy task with die-cast metal. What is really needed is an extension of the fitting of the sprung drawbar, as on the new Hornby designs. Maybe Hornby will get round to this in future upgradings? The wheels have square-ended balance weights which are incorrect though this is not an immediately noticeable matter.

Though there were many A1s and the later A3 alterations, there are relatively few others to which the Hornby model could be renumbered as an A1. *Night Hawk, Knight of the Thistle,* and *Royal Lancer* seem to be possibles. Others would need A3 conversion or conversion of the tender to the non-corridor form. Summing up this is a nice model to the usual excellent Hornby standard of performance for this type of tender drive. It should not disappoint LNER fans.

Bachmann: Brill Trolley, 1:87 scale/HO gauge, UK £8.95

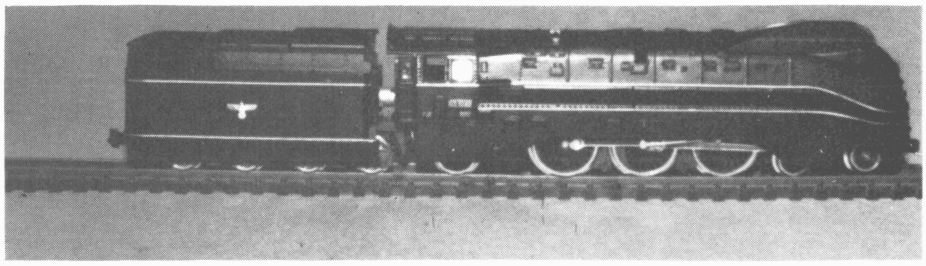
Ready-to-run trams have never been ex-

actly plentiful and just about all those known to us have been mentioned in previous issues. Bachmann entered the lists earlier this year with a HO model Brill, at first in short supply in UK but now readily available. It turns out to be a most neatly produced item at a nice price, and with a very acceptable performance. The motor bogie seems to be the same as the power unit for the Gandy Dancer track trolley just released (see 'Shopwindow') but with extra weight which eliminates any tendency to wheelspin. Running is acceptably slow and we had no problems with stalling or faltering at any time. The Brill was a classic American type which also enjoyed some export success so that Brills of various types were seen also outside USA. A Viennese Brill (ex-New York) is preserved at Crich though its Third Avenue body style differs in detail from the Bachmann model. As with British trams, Brills varied greatly in coachwork details and window spacing, etc. The



Bachmann model is a 39ft example, generally similar to most Brills shown in photos and drawings though we could find no precise vehicle exactly like it. It lacks glazing for the cab windows and the side windows are opaque with passenger silhouettes printed on. There would be no problem replacing the glazing, and aside from the high motor bogie there is no visual obstruction above waist level. Hence it would not be too difficult to fit some real figures, suitably doctored. Indeed the entire model lends itself to customising to suit individual requirements — hence advert boards and destination boards, plus screen wipers could be added to suit. The trolley arms are plastic dummies — the model picks-up from track only — and could also be replaced or changed for a pantograph, as desired. Technically the model is of the 'semi-convertible' type — the real thing had removable window panels so that the car was open above the waist level in hot summer months, though the sides are fixed on the model. Four finishes are available, Market Street, PRT, South Shore Line, and South Hills Lines. All seem to be fictional, but typical, though there really was a South Shore Line in Chicago.

Despite being an American model, this Brill will also be of appeal to British and Continental modellers. Trams of this type



saw service in Europe (eg, Austria post-war) while from the British point of view the model looks astonishingly like the Gateshead single-deckers and some others (such as Kinver cars) as featured in our March 1981 issue. Obviously the resemblance is superficial in detail terms but the character and shape is there. As BR used ex-Gateshead cars on the Immingham line, the model wouldn't look too far out in DMU green with a BR emblem — see page 133, March issue. As the plastic body lends itself to 'chopping' a little, it would be possible to open up window frames, etc, to change the style to suit your needs.

We found the minimum radius curve for this model to be 10 inches, and then only just. Shaving some plastic from the truck apertures in the floor might enable you to get the model round tighter curves, but there is not much leeway due to the proximity of the body sides and the headlight tubing.

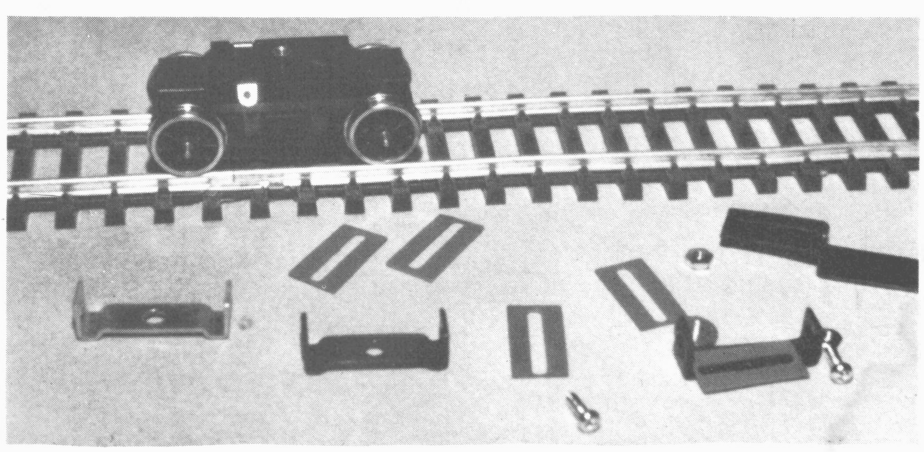
As a basis for a tram/trolley model which is reliable and good looking, and capable of further conversion and detailing, this should be a sound investment at its modest price. Our sample came from Bachmann importers Victors, 166 Pentonville Road, London N1. Postage is extra.

Roco: DR Class 03/10, 1:160 scale/N gauge, UK £38.40

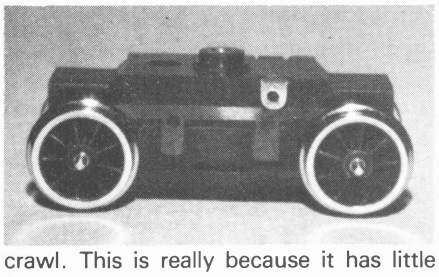
The classic 03 class streamliners were designed in the late 1930s for the old pre-war DR and came into service in 1939. As a streamlined 3-cylinder type they were virtually German equivalents of Gresley A4s for top express work. Borsig, Krupp, and Krauss-Maffei shared the production contract. On later machines some of the lower side valancing was removed and this is how Roco's model is depicted. Those that went to East Germany (DR) were de-streamlined in the late 1950s and the DB locos survived virtually unaltered. Roco's model is quite a masterpiece with impeccable detail and finish, dummy brake gear included. A flywheel motor in the tender shaft-drives the loco wheels. The cab/tender gap is reasonably close and on the track the model looks superb with a smooth slow running performance matching that of Roco's other models. There is no front coupler but one would not be required for express duties. If you seek something special for a German N gauge layout, this beauty could well be on your shopping list. Within the normal engineering limitations of N gauge, all dimensions are accurately scaled. The empty cab would lend itself to the addition of crew figures. Our sample came from Riko Ltd, the UK Roco distributors.

Tenshodo: SPUD, 16.5mm gauge, UK £8.50

This is not a complete locomotive, it's just a SPUD. What's a SPUD? Well, that is what the Japanese firm of Tenshodo call their Self-Propelled Underfloor Drive unit, quite a technological break-through which has very many useful applications in the world of model locomotives. The miracle of miniaturisation has meant that a tiny but powerful five-pole motor can be accommodated within the wheelbase of an ordinary four-wheel bogie, with a height which extends only slightly above the diameter of the wheels. For the asking



price the quality and workmanship is impressive — but not surprising when you realise that Tenshodo are one of the leading makers of brass hand-crafted locomotives too. The plated wheels have either spoked or disc centres, there is a choice of wheelbase and the wheels are to RP25 standard. Our test sample is the 31mm wheelbase version with spoked 11mm diameter wheels. The chassis is 41mm long, 14mm wide, and 14mm high. Also available is a version with 26mm wheelbase and a further option is a 10mm wheel diameter. These are actually designed to HO standards, so the wheels match popular HO sizes rather than OO. However, there are quite a few cases of OO models where the combination of wheelbase and diameter will suit as supplied. In many instances the wheel diameter will be less of a problem because the fact that wheels are slightly undersized can often be disguised by the bogie side frames. Supplied with the self-contained SPUD is a brass yoke for fitting the unit to bogie bolsters, another yoke to which bogie side frames may be attached, and a suspension arm for attaching the bogie to a loco chassis. Washers and screws are included, but depending on the application of the power unit you may need to use yet more washers or adaptors. Performance of the unit is adequate running light though it is rather fast and cannot be brought down to a really slow



crawl. This is really because it has little traction as a unit on its own. The makers suggest ballasting in the 12-20oz range depending on the model to which it is fitted to obtain the best performance. We added Plasticine and lead weights and found better performance immediately apparent even with such a modest addition to the load.

The really big thing about the SPUD is its adaptability. It can be used as a conventional power bogie for trams, DMUs, diesel locos, or EMUs, leaving the vehicle body completely uncluttered. Several SPUDS could be used in a single long train. For example a model HST might have a SPUD in each end car and one or two more substituting for bogies in the trailer cars. A diesel loco could have two SPUD power bogies and they could completely replace the motor supplied in the model. An unpowered dummy diesel loco could be powered easily enough, too, with a SPUD. In fact there is almost no end to the applications of SPUD. For example a quick glance at the Airfix *City of Truro* kit leads us to think that a SPUD could be used to power it, fitted into the leading bogie — or fitted into the tender with the third axle running free. We must say that these are only notions but they give an idea of the sort of use to which SPUDS can be put. Our sample came from the importers, Victors, 166 Pentonville Road, London N1, who can supply the various sizes available.

Wrenn: 'Royal Scot' 4-6-0, 1:76 scale/OO gauge, UK £41

Not often in the news, but quietly maintaining the old Hornby-Dublo tradition G. & R. Wrenn have almost hit the jackpot with their version of the Fowler 'Royal Scot' locomotive — possibly the first of a new generation in this field which upholds traditional standards of craftsmanship as exemplified in the standard range recently refreshed by new nameplates, not always chosen with strict accuracy. The last two catalogues to be released, at 85p definitely not cheap (but a collector's item never is), allow most of the Wrenn 'Royal Scot' features to be related to the component parts of three other locos — the 'Castle', 4-6-2 'City' and 2-8-0 Class 8F.

By cleverly incorporating the complete tender of the 8F, a standard unit seen in the last days of the unrebuilt locomotives and therefore correct for use with the BR *Grenadier Guardsman*; the 'Castle' leading and trailing coupled axle/wheel unit and most of the 'City' chassis/motor assembly, the only new part required is the body die-casting. This is not even approximately to scale when compared, say, with the Mainline 'Royal Scot' which in any case reproduces the rebuilt design by Sir William Stanier. Mainline promise an unrebuilt 'Royal Scot' later.

The strong point of nearly every locomotive in the Wrenn range is the 'feel' of metal and, of course, its weight — as necessary on the model as upon the prototype for effective adhesion which here is where it should be — on the coupled wheels. The sight of this new Wrenn locomotive (I bought the BR green version) hauling six gleaming maroon Dublo super-detail coaches, including the rare RU Restaurant, needs to be seen to be appreciated, especially when the close coupling of the coaches using new pattern Airfix couplings is in evidence. A little induced spin of the driving wheels on starting away only needs a whiff of damp steam and engine oil to carry one away to where all true railway lovers spend part of their lives.

Coming now to the electrical improvement of current collection of *all* the driving wheels on one side using a neat and cleverly designed secondary pick-up, we have at last a traditional die-cast proprietary locomotive that will negotiate the Peco diamond crossings without stalling. Incidentally, all the coupled wheels are similarly flanged — the size of the balance weight and its noticeably large diameter betrays its pedigree as deriving from the first super-detail Hornby-Dublo locomotive — *Bristol Castle.* This name has been refreshingly perpetuated in the new names mentioned earlier.

Of course I would like to see more attention paid to the finer points of the model but taken all round the Wrenn 'Royal Scot' is worth *my* money on a railway layout that features not one of the undeniably accurate plastics bodied production of today, and probably never will. One final thought for George Wrenn to consider, if he chooses, occurred to me as I watched the throng of purchasers at the North Yorkshire Moors Railway shop at Pickering Station near Whitby. This is, why not a truly BR Brunswick Green finish (as opposed to the peculiar powdery green wrongly employed) on all the BR range and particularly upon a newly liveried 2-6-4 tank to carry the number 80135? Unlike the Caledonian-liveried model, this would have a prototype alive and (I hope) well that actually serves the NYMR today. Even with half-shut eyes the BR 2-6-4 tank really looks nothing like the Stanier prototype it is meant to on the Lake District preserve.

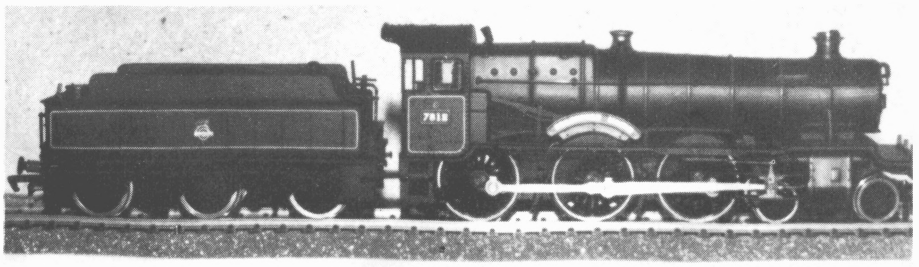
The Wrenn 4-6-0 6P locomotive is available in LMS maroon, LMS black, and BR green with detachable smoke deflectors and improved electrical pick-up.

John Broadley

N.B. Wrenn did not send us a review sample of their 'Royal Scot', but Hornby-Dublo specialist John Broadley has added one to his collection and this is his report.

Mainline news

Below: *Mainline have now released the 'Manor' as 7812* Erlestoke Manor *in very neat BR lined black livery, UK RRP is £29. See 'Test Track' July 1981 issue for more details. Other news from Mainline is that the 5700 Class Pannier tank is expected on sale in November in both GWR and BR forms (UK £16), the unrebuilt 'Royal Scot' class in December in both LMS and BR versions (UK £30), the GMR LNER N2 0-6-2T from late October (UK £23), and the Dean Goods in GWR and BR versions in January 1982 (UK £21.50). The 'Warship' with diesel sound and horn (UK £27.50) and 'Jubilee' with steam sound and whistle (UK £37.50) are now on release. In the wagon field, a new GMR series flat truck and container is due in November, in two liveries (UK £2) and a bogie bolster with girder load in October (UK £4.25). These dates and prices are officially announced by Mainline. The most immediately available new models will be the 4300 Class GWR Moguls – in both GWR and BR liveries (UK £29) due for release in October.*

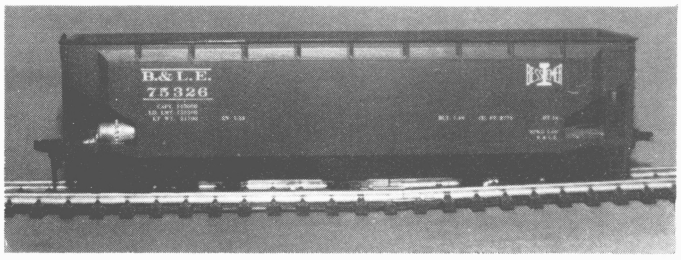


Shopwindow
NEW KITS AND MODELS.

New items of interest to railway modellers are reviewed by the editorial staff or contributors and opinions expressed are theirs, not necessarily the views of the publishers. While every effort is made to give latest catalogue or recommended retail prices, prices quoted should be taken as a guide only due to variations in discounts, exchange rates, taxes, and postal rates. Most items are generally on sale in usual outlets, but addresses of suppliers are given where there is only limited availability.

Roundhouse: 3-bay Offset Hopper, 1:87 scale/HO gauge, UK £1.50

This is not new, but it is one of a very large and constantly expanding Roundhouse series of HO freight cars. As kits go it is quite simple, for the hopper body comes completely coloured and marked, with only the brake wheel to add. The chassis is in die-cast metal and the trucks are ready assembled, very smooth running and with RP25 section wheels. Two coupler plates are moulded on to the chassis frame and have to be detached. There was a fair amount of metal flash on the cast parts though it proves easy enough to remove with a file. One or two rough edges also need cleaning up. All the brake gear glues into locating holes on the chassis, the horn-hook couplers pop into place, and small screws hold both the coupler pockets and the trucks in position. Then the entire body just force fits snugly over the chassis. One or two paint blobs needed rubbing off edges on the body, but otherwise this kit is as easy as any you'll find and the price is most reasonable. The model runs smoothly. Several road names are



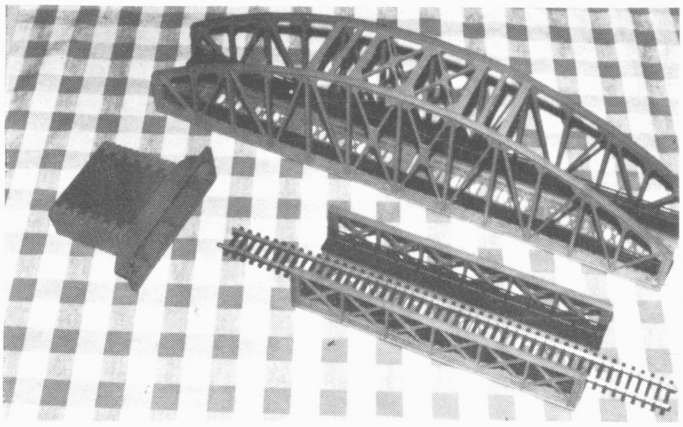
available, our sample being for Bessemer and Lake Erie RR. The cast chassis parts need painting (bauxite brown in this case) to match the body colour. Available at the same price is a Rib-side Hopper, exactly the same running gear and chassis, but with an externally ribbed body style. Again several road names can be had. The sample came from UK stockist Victors, 166 Pentonville Road, London N1, who can supply by post, postage extra.

Ratio: Highley signal box, 1:76 scale, UK £3.95

We're all used to the numerous German made pre-coloured plastic building kits on the market. Now Ratio have come along with a similar idea — but better! In this fine plastic kit of the GWR Severn Valley Highley signal box, everything is pre-coloured but the colours are subtle and subdued and such items as sash window frames really are 'fine scale'. Fully detailed inside and out, it is easy to assemble, a 'must' if you model the Severn Valley (see our August 1981 issue), and is useful to anyone modelling GWR or BR(W) as it is typical of many others.

Roco: Arch Girder Bridge set, 1:87 scale, prices in text

Roco are branching out well into the accessory field with the latest batch of releases now to hand. This firm have been very thorough with loco and rolling stock models and now look like coming up with good ideas in scenics if these items are anything to go by. Most spectacular part of this series is the arch girder bridge (UK £5.20) which is 457.2mm in length and comes as a complete clip-together kit of great strength and fine detail. It has catwalks incorporated and looks complicated, but it goes together in minutes and is in a light green colour which looks most realistic. The catwalks are in dark brown. It takes single track only but no doubt two bridges would fit side-by-side to carry two tracks. Uniform in style is the approach bridge kit, giving a straight girder section 228.6mm in length which will clip to the arch girder bridge. However, this item could also be used as a small bridge in its own right. Next comes another clip-together kit for a stone and brick pier (UK £2). Small screws and clips come



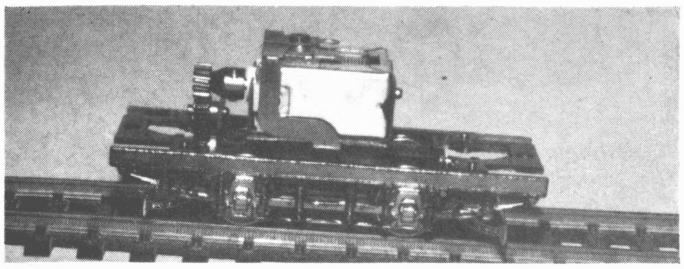
with each kit to allow the parts to be linked and to secure the track to them. They can all be used together in almost any combination of sections. Several arch girders together, for example, would make a dramatic long structure rivalling the Forth Bridge for looks. The arch girder parts and the approach sections can also be assembled in two ways, either conventionally or under slung and the instructions show how. The whole concept here is worthy of high praise and these kits will be useful to all OO/HO modellers who wish to incorporate bridges into layouts. Our samples came from Riko Ltd, the UK Roco distributors and the kits should be available from major Roco stockists such as Howes of Oxford and Victors.

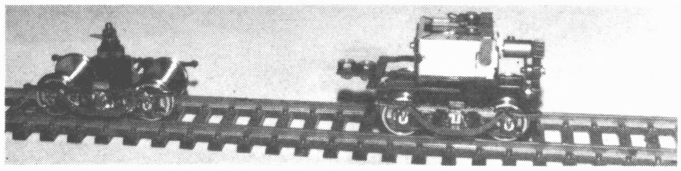
Duramaya: Power trucks, 1:87 scale/HO gauge, prices in text

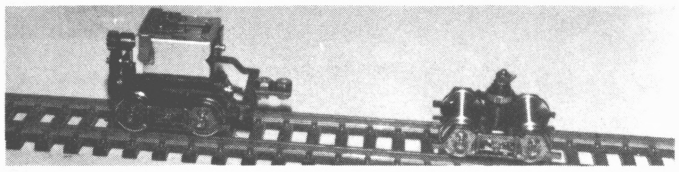
Recent articles in this magazine on tramway modelling have aroused much interest. One matter arising was the shortage of really good slow running chassis and trucks for the slow speeds and much stopping and starting required of small scale trams. The 'Spinner' truck of Rokus Schelling was a 'private venture' quest for better performance (see page 354 of the July 1981 issue). Now M.G. Sharp Models, 712 Attercliffe Road, Sheffield, S9 3RP, are importing a range of trucks from Japan which offer a very high standard of performance and an excellent standard of finish. All you need are the bodies to fit over the trucks. Of major interest for British tram enthusiasts is the Brill 21E single truck unit (first picture) at £12.75, for this type was commonly used to power many small British trams. It has a wheelbase of 24mm and is absolutely complete. Fixing holes are provided in the bolster. All others are twin truck units, these being Baldwin 'A' (£14.50), Baldwin 'R' (£13.50), and Baldwin 'L' (£13.50) – shown in that order in the pictures. These trucks are 26mm, 20mm, and 18mm wheelbase respectively. In each case the non-powered truck has a spring pivot. All these trucks should run well and smoothly but the Brill truck was the only one which could be tested straight from the box, since it is a self-contained unit. The twin trucks have to be wired up for pick-ups and as we only had these on loan we could not incorporate them into models. On the other hand the Brill truck is a complete chassis, but as all are mechanically identical – same low profile motor, same gears – the Brill performance can be taken as indicative of them all. On the track the power unit proves to be superbly smooth. With a H&M Clipper, it was happy with any combination of setting and ran smoothly and well with virtually no noise. It gets down to a crawl without any trouble, is firm and steady in motion, and in general is a joy to operate. Above all, it runs very slowly and responds at the slowest speeds with no trouble on stops and starts. The overall height from the rail is 22mm so the motor should be below window heights on most model trams. The scale is strictly speaking

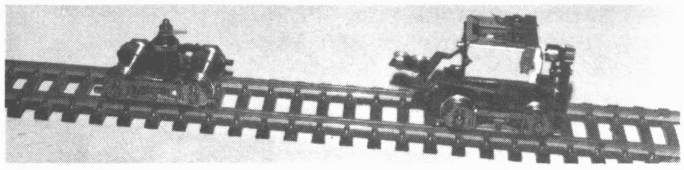
HO, but depending on prototype the trucks will pass for 00. The Baldwin trucks are of course, strictly American prototype for trolley cars but they are similar to others for tram use and were, in any case, exported.

These fine units offer good performance for the money and the Brill in particular is a delight. They are obtainable only from M.G. Sharp in UK, postage extra.



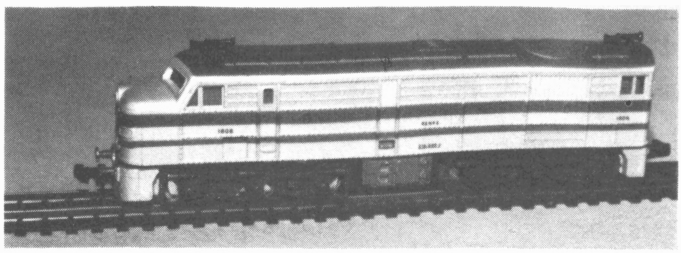


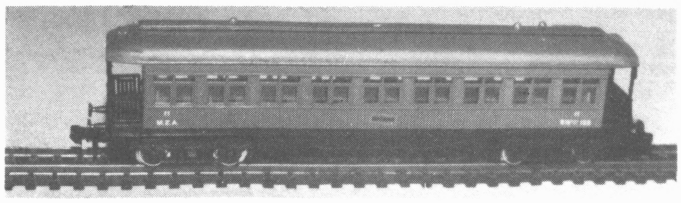


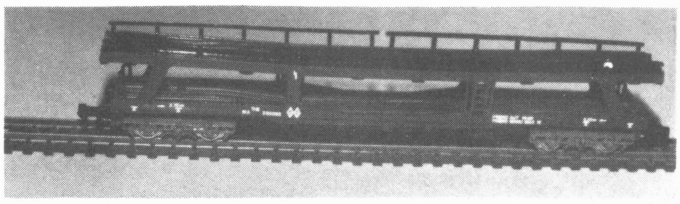


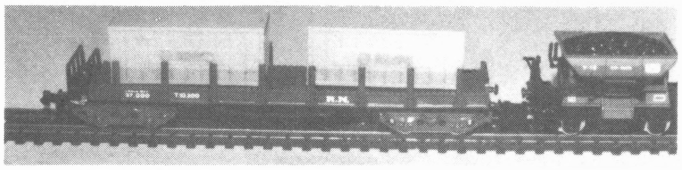
Springside: Small accessories, 1:76 scale, prices in text
Springside Models, 23 Devon Square, Newton Abbot, Devon, make many useful accessories for both 4mm and 7mm scale. Latest to hand is a set of GWR whistles (40p UK) one large, one small, of the standard pattern 'bell' type – ideal for super detailing. These are in turned brass. A packet of 50 chairs (64p) is also released, not for actual use, but as display 'junk' to simulate the rusty old chairs often seen lying around the lineside. Finally there is a set of locomotive tools (68p) of 11 items including a hammer, three spanners, gauge glass spanner, screwdriver, barrel oil feeder, adjustable spanner, two oil cans and a push-button oil can. This is a delightful set of tiny items which can enhance any loco model.

Ibertren: N gauge range, 1:160 scale, prices in text
In Spain Ibertren of Barcelona is a major indigenous producer of N gauge equipment offering quite a reasonable range, mostly Spanish prototype but with a few other European models as well and some 'international' items like a Transfesa van. The star item, and a good looker, is the complete Talgo train, a sort of loco-hauled 8-car HST operated by Renfe in TEE service (UK £15.95 complete, individual cars £4.31 each). The UK distributors are Eames (Reading) Ltd, 24 Tudor Road, Reading RG1 1NH and Model Railway (Mfg) Co. Ltd, 14 York Way, London N1. They both stock the full range and can supply a full colour catalogue and price list at 21p plus postage from either address. N gaugers looking for something different or useful items for continental use will find the catalogue well worth perusal. Unusually enough, Ibertren offer both 3-rail (yes, 3-rail!) and conventional 2-rail models. The 3-rail is not imported which means that the two steam locos (DB Class 66 and 24) shown in the catalogue are not offered in Britain yet as they only exist so far as 3-rail options! However, there is plenty more, notably some old-time stock such as the MZA coach (UK £3.26) which would be ideal for a miniature N gauge Benguela-type line as suggested in the September 1981 issue or for old-time US layouts if the buffing gear was removed and end steps added. There is a set of DB 'Thunderbox' 4-wheelers (UK £2.30 each), and UIC standard coaches in SNCF and DB colours (£3.15 each). Several of the



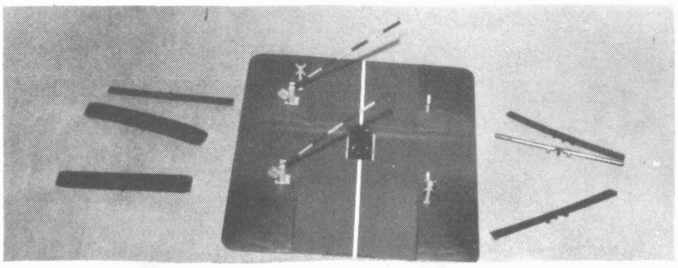






freight items are of a style suitable for a Benguela-type line as are some of the diesel locos. Of major importance, in fact, is a superb replica of the Alco 1,800hp export loco which not only served Renfe but several Middle East countries and several Australian companies. Indeed, this seems to be the only available N gauge replica of an Australian loco, being exactly like the old Class 44 of NSWR. With only a repaint and slight modification to the buffers you have a classic Australian type. The model looks good and runs quite well being reminiscent in power and style of moulding and construction to the early Atlas diesel locos. This Alco was so widely exported that you might find yet other countries to which it would be applicable. Though the original was derived from the PA and FA series which Alco produced for the US market, this export model differed in having a cab at the 'blind' end, a very practical idea that saves turning the loco. UK price of the model is £12.40. Among rolling stock models we were impressed with the double-deck car carrier (UK £2.94 or £3.46 with six cars included) for this is very similar in looks to a type used by BR as is a container flat with two containers (UK £3.12). Another vehicle we had was a short hopper of Renfe which is similar to those used in other European systems (UK £1.96). Standard of detail and finish is good throughout and all models run smoothly and couple effectively. The range is well worth a look if you model in N gauge.

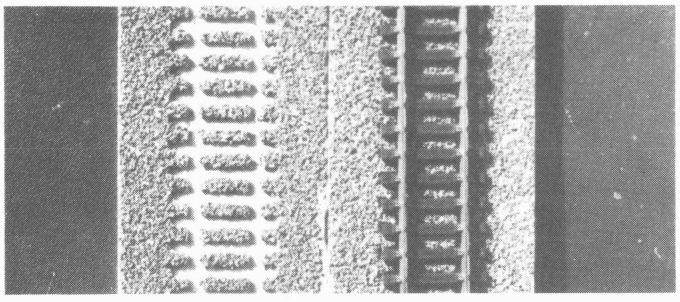
Roco: Level crossing/shack, 1:87 scale, UK £3.98/£1.60
Two more scenic items from Roco have also been received. The shack or shanty kit contains parts for two complete identical huts on bases, and all parts are moulded in a realistic 'tar and creosote' colour. The shacks are of conventional type, with the odd missing plank and pivoted doors. Glue assembly takes a matter of minutes. There is some variation possible if walls are transposed. The roof is worthy of comment, the edges being of scale thickness rather than the usual thick plastic. Therefore realism is much enhanced. The level crossing comes ready assembled and coloured, and it works. A pressure plate is incorporated in the



base and the weight of the approaching train on the track actuates the plate which pushes on the sprung barrier pivots so that the barriers drop as the train approaches. Straight or curved track can be used and filler pieces are provided for use as required and to complete the roadway paving. The road is a narrow one with single barriers both lifting from the same side. This is unusual but not unknown. Plug in 'road-rail' crossing signs are supplied. You might wish to add dummy warning lights, though these are not provided. Britain, Germany, USA and France (among many) all have different styles of warning light or bell, so you must add these details to suit. This is a good model.

Hadley: Styroplast ballast system, prices in text

Ballasting always causes a degree of uncertainty for anyone building layouts as there are several ways of approaching the problem. Foam inlays are popular and clean, but not to everyone's taste. Using glues or liquid methods sometimes results in everything getting gummed up and subsequent electrical problems. Hadley are distributing a new system which offers cleanliness and realism and is designed for Peco Streamline OO/HO track and other tracks with the same sleeper spacing. Essentially it is a moulded foam type base which is flexible and covered with a sheeting holding granulated pre-coloured cork ballast. The overall effect of this surface is most realistic and the track is held snugly recessed. The strip is sold flat but both edges are bevelled to allow the optional removal of them, so forming shoulders at the ballast edge. For double tracks the shoulder is



obviously not required on the inner edges. With the shoulder piece removed the ballast covering is glued back over the sloped edge. White PVA glue can be used for this work. Double-sided adhesive tape can be used to lay the ballast strip, thus allowing it to be lifted if necessary for later track alterations. Pins are only to be used sparingly since the recess in the underlay holds the track. With our test length we could not try this exhaustively, but it certainly works well for gentle curves — you flex the underlay with the track — and underlays are available to match each type of Peco OO/HO turn-out. Theoretically it will flex to make quite tight curves, but without the risk of damaging the sample, we concluded it would not really flex to match sectional track radii, though bolder people than us might like to try it. For gentle curves, however, it works without putting any noticeable strain on the underlay material.

Prices are quite reasonable for the realism offered — and also bearing in mind the ease of working. Strips for single track 125cm long cost UK £1 each and turn-out sections are UK £1.40 each. Mail order is not available on this range due to the risk of damage. However, it can be ordered through local model shops, and also to order is underlay to match Roco, Fleischmann, and Märklin K-track sleeper spacing. A descriptive free leaflet is available from Hadley Hobbies, 131 Middlesex Street, London E1, in return for a SAE.

Hornby: BR Class 47/7 'Lady Diana Spencer', 1:76 scale/OO gauge, UK £20.95

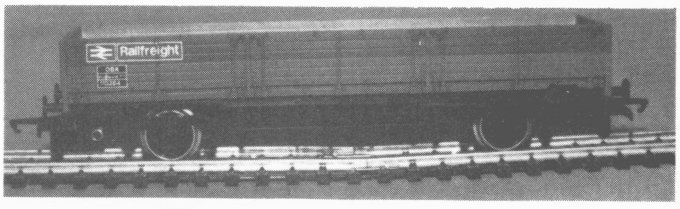
With the wedding of the Prince of Wales creating quite an 'industry' in souvenirs, both Hornby and Grafar have got in on the action a little by producing versions of their Class 47 models depicting 47 712, the loco named *Lady Diana Spencer* by BR earlier this year. As a collectors' piece in a limited run this model is sure to have attraction for a lot of modellers and it consists of the standard Hornby Class 47 model finished very nicely in the latest standard colour scheme as sported by the actual loco — yellow ends, black window surrounds, large logo and number, and silver-grey roof. Quality of this finish is excellent. From a purist's point of view, however, the model has a few inherent faults which need correcting. The article in our September 1981 covers the work necessary for a really super-detail model made from the basic Hornby Class 47. As *Lady Diana Spencer* is a push-pull fitted machine for the Glasgow-Edinburgh service, extra detail in the form of jumper cables is needed on each nose and the marker light panel needs painting over in yellow, Hornby having finished it in black. The worst aspect the model are the two horizontal mould lines inherited from the original two-tone green paint scheme. These were factory painting guides, not found on the real thing. The upper line goes right through the name plate. However, if you are prepared to do the work detailed in our September 1981 article, rubbing down the lines and repainting the sides (with care) you could probably save the rest of the excellent paint finish. A new *Lady Diana Spencer* name will be needed each side in this case, but we imagine that these are available from specialist plate suppliers by now.

Hornby: Zero-1 hand-held slave controller, UK £14.50

Latest addition to the Zero-1 equipment range is a hand-held slave controller which comes on a 2 metre flexible ribbon cable with the correct multi-pin plug for connection either to the master controller or a slave controller which is already linked to the master. Each master controller can take three slaves, though only the last one in the chain can be a hand-held one. Less than 2in wide, the hand unit duplicates the speed control slider and the direction switch from the master controls. The whole thing is strongly made with a thick plastic casing, and a neat clip is incorporated enabling the unit to be hung in a belt or pocket. If a suitable bar was put on the baseboard edge it could also be hung there when out of use. The hand-held slave obviously frees an operator from having to stay in close proximity to the master controller and is useful in those cases where close track observation may be vital some way from the master — for example, to oversee a shunting yard or a busy loco depot or junction.

Hornby: Speedlink open wagon, 1:76 scale/OO gauge, UK £2.50

Here is the Hornby OBA now released in the latest Speedlink livery of grey with orange upper sides and ends, a pleasing and colourful combination which looks really good in model form. Detail on the plastic moulding is sharp, including even the chains and pins which secure the dropside sections. Brake rigging is well depicted though the brake shoes don't actually line with the wheel treads. The couplers and axles are pivoted (though the wheelbase is rigid on the real thing) to assist the long vehicle

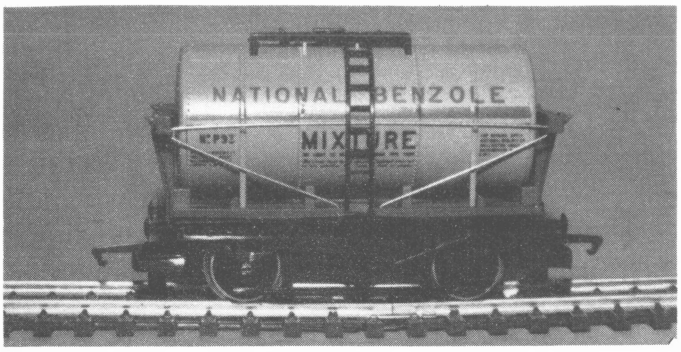


round sharp curves. This happens to give a good degree of compensation and we found this model runs much better than short fixed wheelbase models from the same firm. Bright wheel rims and the coupling itself are rather obtrusive but we found that touching in the wheel rims and the prominent brass rivets on the couplers with matt black made a big visual improvement as the eye was then no longer drawn to these bright areas. This is an indispensible model for anyone favouring the current BR scene.

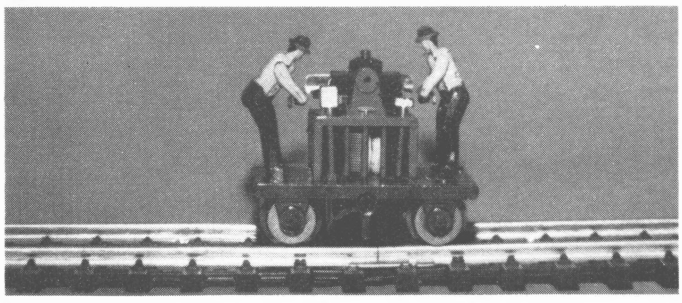
Hornby: National Benzole tank wagon, 1:76 scale/OO gauge, UK £2.50

Checking in Tourret's useful reference work *Petroleum Tank Wagons* we find that that original of this new Hornby release was a Class A 14 ton wagon built in 1930. A picture of a slightly later wagon of the same type, plus the text description, shows that Hornby have done a good accurate job on the colour scheme and markings, though the ends and framing should be a little darker, perhaps, to match 'Indian red'. It cannot be said, however, that this is an exact replica of the original. Obviously Hornby have found a prototype as close as possible to their standard model. There are many detail discrepancies though the superficial similarity to the real thing is close. Dimensions for P93, the original, are not given, but against other Class A dimensions

this model is a little short on overall length though the wheelbase is correct. You could make this model look much closer to its original by cutting away the tie-bars between the axle guards, adding the owner's and maker's plates, and docket clip to the solebars, and replacing the transverse cradle detail by longitudinal cradle sides (strips of Microstrip would suffice). Overall effect of the model is good as is the quality of the painted finish.

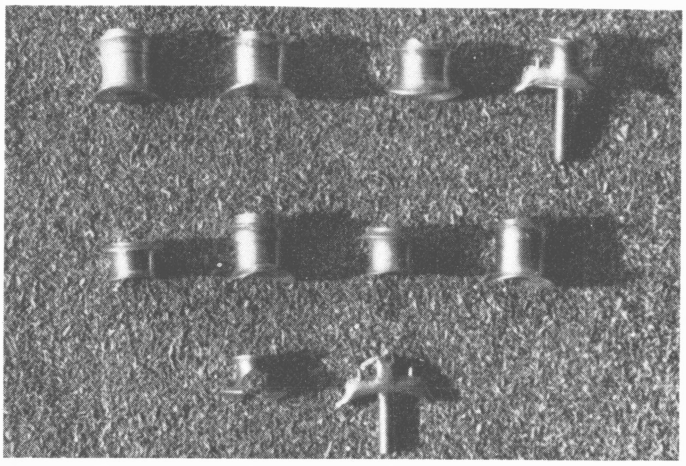


Bachmann: Gandy Dancer, 1:87 scale/HO gauge, UK £5.85
A 'Gandy Dancer' is old American railroad slang for a platelayer or permanent way man. Bachmann have applied the name to this cute little *working* model of a way gang's hand trolley, quite a novelty item that is sure to appeal to many OO/HO fans. The trolley in question is one of the old 'pump action' types which gets its motive power by two gangers pumping energetically on a handle in the middle of the car. LGB make a similar large scale version. They are rarely, if ever, seen these days except in museums or on preserved lines, but they often figures in comic railway chases in old silent movies. This small model is essentially a very tiny motor bogie dressed up externally with racks containing ganger's tools and concealing the vertical motor. Two cast metal gangers have articulated trunks and arms and gearing from the axle makes them pump up and down most energetically as the little trolley runs along the track. Being all metal there is plenty of weight to give adequate traction, though there is wheel slip if power is applied too quickly. Some of the metal framing, and the wheels, are bright metal, and painting over in black or track col-



our would enhance the realism. The model is most entertaining and is an instant crowd puller. We found that visitors who were not model railway enthusiasts were greatly fascinated by the appearance of this clever model. Layouts at exhibitions will undoubtedly get a similar response if this model does a turn along the track. Though of American prototype, this model will really be at home on any layout for this type of trolley was quite common, even in Britain. As a bonus the figures are a little bulky for HO (due to the articulation) and they look more like OO scale. This model would also be of value to anyone seeking a small motor unit, say for a small railcar, tram, or inspection car. The wheelbase is 21mm, width overall 24mm, height 28mm (figures removed), and wheel diameter 7mm. Used as intended, this powered model adds an interesting extra operational element, for you can now schedule a genuine 'track inspection' run into your working timetable, and ganger's trolleys need no longer be just a static scenic addition to the line. Our sample was supplied by Bachmann importers, Victors, 166 Pentonville Road, London N1, post extra for mail order.

Eames: Brass chimneys, 1:76 scale, UK 46p/69p each
A useful series is produced by Eames which will interest all those engaged in loco conversion work, or the super-detailing of cast or ready-to-run locos. These are top quality turned brass chimneys of excellent finish and appearance, mostly of GWR prototype. Available are three types of 'Castle' chimney, short, standard, and tall, the standard 'Hall' chimney, and those for the 4300 class, 'Star', 'Saint', Stanier 'Black 5' and 'Jubilee' standard type. In addition there are two 'super detail' GWR brass valve covers at the higher price, the long and short versions, produced in two parts so that the casing is hollow with the actual valves as separate pieces inside. This gives a most realistic effect. By checking with drawings there is no doubt that several of these chimneys will also be suitable for other classes. In the case of kits these superior versions can simply replace the cast part, but for r-t-r locos you will need to carve off the existing parts and replace. The actual brass finish of these parts means that the appropriate areas may be left unpainted on those locos which had polished chimney capping. Some larger model shops stock this



series, but they are available by post from Kings Cross Models, 17 York Way, London N1. In return for a large SAE they will also send you a list of many other cast parts suitable for scratch-building and converting loco models in 00 gauge — the answer for those who may have followed Vivien Thompson's or Richard Gardner's recent articles on loco conversions and wondered where to get chimneys, buffers, domes, smokebox doors, and other fittings.

Toolmail: Hobby service case, prices in text
This case for hobbyists and model builders has a robust metal frame containing 16 clear styrene drawers (each 5½ x 2¾ x 1½in) for storage of components and small parts, and one strong base drawer (11 x 5½ x 3¼in) for storage of tools and other larger heavier items.

The front of the tough vinyl outer case folds down to provide a useful working surface and the case is a compact 12in high with comfortable carrying handle.

The case is available for a limited time at a special introductory price of only £29.95 which includes VAT and delivery, but recommended retail price is £34.95. It is available from Toolmail Ltd, Parkwood Industrial Estate, Sutton Road, Maidstone, Kent.

Roco: WEG old-time coaches, 1:87 scale/HO gauge, UK £6.20 each
In recent years Roco have been re-introducing some of the nice models originated by Rowa who went out of business some years ago. Latest to hand are a matching pair — a third-class coach and a luggage van with 'bird cage' lookout — in the colours of the old Würtemberg State Railway, carmine and cream. The same

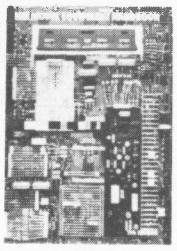
THE FACTS OF LIFE. 1.

HM5000 – Control is the secret!

Right now, up and down the country, model railway buffs are daydreaming about adding another new loco to their stable. And, should the purchase take place, that will, for a time, be the favourite for running round the layout, while all the other locomotives – once favourites themselves – lie idle.

Just think how many stunning engines you've shunted off into a siding – 'ladies in waiting' put out to grass! Which probably means that your layout is relatively lifeless, and certainly unrealistic. For whoever heard of a railway system supporting a single, solitary, operating loco?

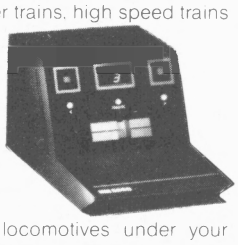
But before you blame the limitations of your present power control system think how the money you were *about* to spend on your next engine could be better invested. In the cause of realism, activity, sheer rewarding enjoyment from your fascinating pastime. A good way to start is with the HM Model Equipment Handbook*.



You may already have heard word-of-mouth rumours about the new HM5000 Microprocessor Programmed Electronic Multi-train Control System. What you cannot know is how simply its micro-chip wizardry can give you control of several trains and associated accessories simultaneously. A feat made possible by the unit's incredibly comprehensive capability. Let's take a very brief look at this:

You can control two locomotives with a further 14 locos running at pre-set speeds, dependant on current consumption. Each loco must be fitted with an H502 or Zero 1 module.

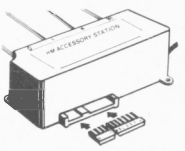
Four different inertia levels can be allocated to locos, simulating gradual acceleration and deceleration to suit a particular type from shunting, where you need direct response, through passenger trains, high speed trains and very heavy goods trains. These can be set running at different realistic speeds set by the speed regulator while you operate the two locomotives under your direct control. With the addition of two HM5500's, independent control can be extended to four locomotives.



A Digital Readout Display shows you which locos you have under control and their inertia levels. It will tell you which accessories you last operated and in which direction. A series of different time scales, each working as a time scale clock, can also be shown on the display – enabling you to operate various timetables. The clock continues to function when the Digital Readout is showing other information and can be switched back at any moment.

Four time scales allow the enthusiast to operate his railway to a 24 hour timetable, bringing a new dimension to model railway operation.

With a large number of locos running on the same track at the same time there is always the danger of a collision, and for this reason the HM5000 has an Emergency Key. When pressed, all locos will stop and all the displays will flash intermittently. You can then sort out the problem, reprograming points and locos where necessary.



Up to 99 accessories such as point motors, signals etc., can be controlled using the HM503 Accessory Station.

When the keyboard is used an audible signal is emitted. This confirms that the instructions are correct and have been accepted by the HM5000.

A Current Consumption Monitor shows the amount of power being drawn. Input errors and short circuits are indicated by audible alarms and light emitting diodes. Unlike conventional 12v DC controllers, double heading (one loco attached to another) presents no problem.

So there it is. A box of electronic tricks little different in principle from those that control a modern railway system. And a long way from the equipment you are currently using. This is the most advanced unit of its type yet designed. See it now, at your favourite model shop – and let the running of your layout get moving as never before.

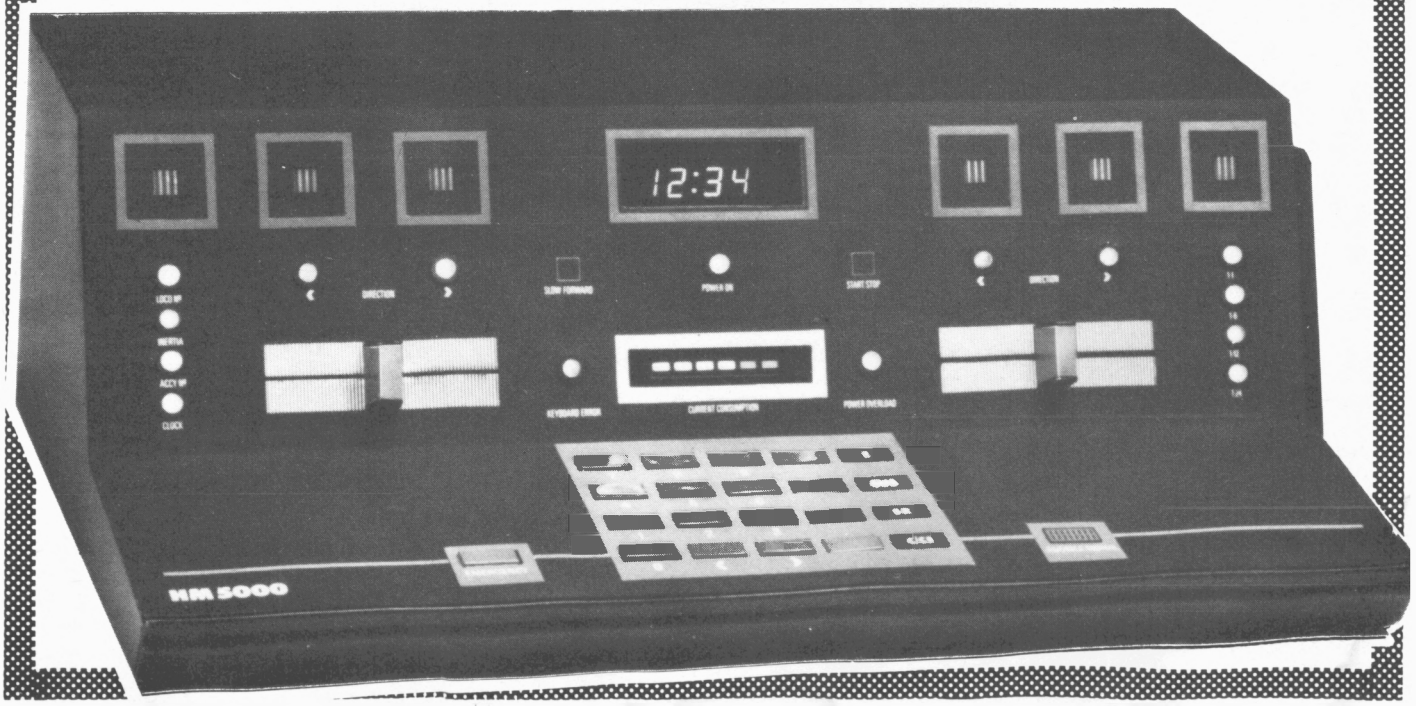
Full information on the system is contained in the 42 page instruction manual, including module wiring instructions for over 200 locomotives*.

H&M Systems – keeping you one step ahead.

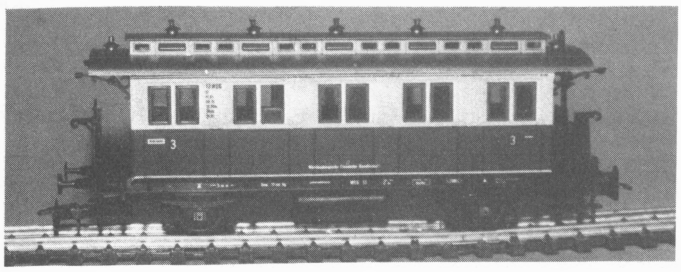
H&M Systems – keeping you a step ahead

☆ *Available only from your local H&M dealer*

H&M (SYSTEMS) LTD. SANDOWN ROAD, WATFORD, HERTS. WD2 4AW. Watford 21253



models were released over a year ago in pre-war DR livery (and we featured them here). The quality of these two four-wheelers is hard to beat, since all the detail is there, inside and out. Delicate brackets are cleanly depicted in thin plastic, and the finish and lettering is beyond reproach. Lamp tops for the roof and a gas cylinder for the chassis are supplied in a separate package and



must be affixed by the purchaser — a few moments' work. If you fancy old-time German models then you'll like these models. The coach is shown. Our samples came from Riko Ltd, the UK Roco importers, and they can be had from major Roco stockists like Beatties, Hadley, Howes, and Victors.

Märklin: Track planning set, UK £6.30

This is a good idea from Märklin though in some ways its direct use is limited for it can only be used accurately to plan M and K tracks. Essentially there are two sets (one for M another for K) each comprising a generous outfit of plastic miniature 1:5 reductions of all the components of the Märklin track sections — straights, curves, turn-outs, traversers, and even the turntable. The gauge is just over 3mm. All parts clip together and are variously coloured, and all have the catalogue number of the item moulded in. Complete miniature layouts can be built up so that precise track formations can be planned and tested before you buy the track. It will only give a 100% accurate impression if you are using Märklin track on the layout, but obviously it will give you a good idea of requirements and space needed for other OO/HO sectional systems where the geometry is quite similar. Aside from this, however, we see a scenic use in that the pieces could be used to make up dummy garden railways for miniature model railway enthusiasts in the gardens of larger scale model houses! Or for Z or N gauge could be used for narrow gauge tracks on industrial sites. Märklin also see play-value for youngsters in that they actually call it a 'track planning game'. This new item is available from Märklin stockists.

Anbrico: British tram series, 1:76 scale/00 gauge, UK £15

If you've been following the Eric Slagg series and want to get into tramway modelling yourself, then this new range of kits might be just what you need. Anbrico have come out with a range of no less than ten differing kits for the 'traditional' British tram car of single truck form and made a basic unit which they can vary so that a covered top car, open top car, balcony top car, and even a single deck toastrack car can be made depending on the castings in the kit. In this way they can offer typical cars for Leeds, Ediburgh, Aberdeen, Bolton, Dundee, Salford, Brighton, Birmingham, Doncaster, Coventry and Nottingham, in some cases in more than one form. There will no doubt be many others which some personal research will show to be possible by further detail addition to the castings – but it must be said these are 'typical' and not precise replicas of specific makes.

All the castings are clean and sharp and commendably fine. We've inspected the whole range and the models look good. We plan a more detailed coverage of the modelling potential of these in a future tramway article. Better yet Anbrico have designed the range to be powered by the new Tenshodo SPUD (see 'Test Track' this issue), possibly the first series of kits to be designed around this compact unit. The castings conceal the SPUD below window height, so virtually full interior detail can be depicted. You have to buy the SPUD separately. Each basic tram costs £15 except for the toastrack car which is only £11. If you have no local stockist, the trade distributor, Gem, 31a Rhos Road, Rhos-on-Sea, Clwyd, LL28 4RR, can supply direct, post free – they can also supply the correct wheelbase SPUD at £11.53 post paid.

Platform 3

märklin mini-club

ARNOLD-N®

THE ORIGINAL 'N' GAUGE EQUIPMENT —
QUALITY — PERFORMANCE — PRICE — TRIED AND TESTED.
NOW IN STOCK AND GOING PLACES.

MAKE A DATE

November 21st and 22nd,
St. Annes Y.M.C.A. Hall, St.
Albans Road, ST. ANNES.

MODEL & HOBBY FAIR

Incorporating First National 'Z'
Gauge Exhibition.

WE STOCK MÄRKLIN MINI-CLUB *THROUGH* THE RANGE.
WE WILL MAIL YOUR ORDER THE SAME DAY YOU TELL US
YOUR ACCESS OR BARCLAYCARD NUMBER.
BY TELEPHONE ONLY PLEASE.

FLEISCHMANN
MODELLBAHNEN

SEE THEM ALL TOGETHER AT PLATFORM 3
AND FIND OUT WHY WE ARE NO. 1 IN MODEL RAILWAYS.

South Station · Waterloo Road · Blackpool

Open daily from 10 a.m.

Tel: 401150

MODEL TRAINS

classified adverts

Please address your correspondence to
Model Trains
Classified Advertisement Department. Tel: 01-405 3611
Jackson Rudd and Associates Ltd
Oldbourne House, 46/47 Chancery Lane, London WC2A 1JB

The publishers point out to readers that, while every care is taken to check the bona fide nature of all advertisements, they cannot accept any responsibility for disputes which might arise.

Rates 10p per word. Min. charge £3.
Box numbers £1 extra charge
All advertisements must be prepaid.
Please state classification required.

Closing date for next available issue:
November 30
January 1982

FOR SALE:
FOR SALE. Books, timetables (Public & Working) tickets, labels, miscellania from railways, tramways, buses & motor transport. SAE (foolscap) list below.

GAUGE 0. Exley Coaches, track parts, transfers, electric & scenic items, sundries. SAE list below. GAUGE 00. Exley locomotive, transfers, electric & scenic items, sundries. SAE list below. Gauge 1. Electric & scenic items, transfers, track parts, sundries, SAE. The Ridge, Baslow, Bakewell, Derbyshire.

1930 Invicta Type S. 1/87 (HO/00) scale in white metal. Built: £1.00 plus 35p p & p. K & B MODELS, Box 39, Harrogate, Yorkshire. Tel: (0423) 68452.

GARDEN RAILWAYS — L.G.B. Pola, Live Steam Mountaineer, Beck, Aster, Fulgarex, Wilesco, Special introductory autumn offers plus free postage insurance. Mail order only. Berian Crafts (MT), 16 St. Mildreds Avenue, Luton, Beds.

1927 Jowett 7. 1/87 (HO/00) scale in white metal. Built: £1.40, kit: £0.90p plus 35p p & p. K & B MODELS, Box 39, Harrogate, Tel (0423) 68452.

DART CASTINGS
FARM TIP CART & HORSE.....£2.50
MILK FLOAT & HORSE.....£2.50
HARVEST CART & HORSE.....£3.00
4-wheel FARM WAGGON.....£4.00
From your model shop or post paid from:
4, BRIDGETOWN, TOTNES, DEVON.
Access accepted S.A.E. lists.

Horwich Loco Centre & Hobbies
Model Railways Gauges 0-00-N. New & Secondhand Bought & Sold. Kits built to order & locos.
Please write, S.A.E. for all your model railway requirements.
170 Chorley New Road, Horwich, Bolton BL6 6HT or call Bolton 67157 & visit.

TRAMCAR PARTS. 7mm scale kits & white metal castings, trolley poles, and traction standards. Send SAE for lists to J. Aitken, C/O Dundee Enterprise Workshop, Logie Avenue, Dundee.

WANTED
WANTED. Centre Models 009, ref; LM1, Leek-Manifold Valley Railway 2-6-4 T, Ref; LM2, 3rd class coaches, Ref; LM3, 1st/3rd Brake Coaches, preferably Primrose, Maroon accepted. Ref; LM4, Bogie Transporter Wagon. All unmade, write giving full details please to:— Peter D. Matthys, Room 1, The Royal Botanic Garden, Inverleith Row, Edinburgh, EH3 5LR. Also wanted, Peco '00' Road railer vans, Adaptor bogie and road tractors.

PERSONAL
CLOSE ENCOUNTERS GROUP, Personal introductions/dances, parties, talks, social events. Meet interesting, attractive people. All areas. Tel. (Liverpool) 051-931-2844. (24 hrs.)

Berliner Bahnen

THE ONLY READY TO RUN TT SYSTEM AVAILABLE
S.A.E. FOR LIST

EASTERN MODELS
TT DEPT.
332 THOROLD ROAD
ILFORD ESSEX IG1 4HD
Telephone 01-478 3797 (Evenings)

SHOWROOMS FOR PIKO, VERO AND MEHANOTEHNIKA AT 166 THREE BRIDES RD, CRAWLEY, SUSSEX. OPEN 10AM-5PM. EARLY CLOSING WED. & SAT.

LOUGHBOROUGH MODEL SHOP

Are you getting lit up, going round the bend, or just waiting for the next tram? Whichever it may be, here are the latest items:—

J & P 4mm gas lamps, approx scale 15ft, wired through brass standard, with amber light, 5-12 volts, £2.15 each. One customer bought all of our first batch!!

INLAYS We now have a sheet consisting of one short curve and one long one in pavement to match our existing curved inlays.

Curved pavement, sheet,	17p each.	Double curve for track (45 deg)	64p each.
Straight paving, sheet,	33p each.	Double straight for track	64p each.
Cobble setts, sheet,	33p each.		

ANBRICO 4mm scale trams — a whole new range of UK outline cards, toastrack is £11, all others are £15. All take standard Tenshodo motor bogie on 26mm wheelbase, (not included in kits), price £11.53. Note that we shall stock kits and motor units only.

BEC All items in stock subject to availability from manufacturer.

0 GAUGE Response to our Meteor Products announcement was terrific. Send an S.A.E. for list of wagon kits and miscellaneous parts — these are too good to miss!!

Money Saver:— Write to **FREEPOST LOUGHBOROUGH LE11 3BR** — No stamp needed.

Time Saver:— Dial 0509 66993 with your order, we can charge it via ACCESS/BARCLAYCARD or invoice you the same day!!

Shop Address —
64 Ashby Road, Loughborough, Leics. LE11 3AE.
Open 10am – 5.30pm., Sats. 9am – 5pm., closed all day Weds.

IT'S ROCK BOTTOM PRICES TIME!

Lima DMU (All liveries)	£10.99	CL 33 Blue/Green	£ 6.99
or two for only	£21.50	45xx GWR/BR	£ 9.95
Warships (All liveries)	£ 7.25	94xx GWR	£ 6.50
Westerns (All liveries)	£ 7.75	LNER J50	£ 6.50
09 Shunters (All)	£ 7.25	Passenger Coaches	£ 2.30
Railcars GWR/BR *New*	£ 8.45	Or SIX for only	£12.95
LMS 'Crab'	£15.50	Motorail Carrier	£ 2.10
BR 'Crab'	£14.95	Breakdown Crane	£ 5.25
GWR 'King'	£14.50	Milk Tanks (Any)	£ 1.75
C187 Electric *New*	£ 9.00	Hoppers (All types)	£ 1.40
C150 (Both liveries) expected	£ 9.00	Or TEN for only	£13.20
GWR Horse-box	£ 1.25	Bogie-bolsters	£ 2.00
Any 7-plank or box van	£ 0.90	**DJH Kits**	
Or SIX for only	£ 5.20	D20 4-4-0	£19.75
STL flexitrack Box (12)	£ 5.50	Q7 0-8-0	£21.50
N/S flexitrack Box (12)	£ 7.75	A1 4-6-2	£36.95
MAGNA MODELS		A2 4-6-2	£38.95
LNER/BR J9 0-6-0	£10.50	'439' C1 0-4-4T	£30.00
LMS/BR Johnson 0-6-0	£10.50	J9 0-6-0	£19.95

Send a S.A.E. for complete list.
Mail Order only to:— **J. KING (MODELS), 190 Frobisher Rd, RUGBY**
Telephone for availability of new items (0788) 814983.
Please add postage charge of 85p on each order £30 or less.

LIMA 00 GAUGE		Manual Point LH/RH (Steel)	each £1.25
Prairie Tank 45XX GWR BR	£9.99	Manual Point LH/RH (N/Silver)	each £1.65
King GWR/BR	£14.99	Electric Point LH/RH (Steel)	each £2.39
Diesel Shunter LMS/BR Green Blue	7.99	Electric Point LH/RH (N/Silver)	each £2.85
Deltic Blue/Green	£7.99	Point Switch (operates 2)	£1.50
Western Blue/Maroon Green/Sand	£6.99	Flexible Track (90cm) available to callers only	
Warship Blue/Maroon/Green	£6.99	Steel	£0.56
Class 33 Blue/Green	£6.99	N/Silver	£0.75
94xx Pannier GWR	£6.99	**MAINLINE 00 GAUGE**	
Crab BR Black/LMS Maroon	£15.99	Scot LMS Steam Sound	£19.99
DMU 2 car Set (all 3 liveries)	£11.49	Patriot BR Steam Sound	£19.99
DMU 2 car Trailer Set	£6.99	Manor GWR/BR	£19.99
Railcar GWR/BR	£8.49	Warship (maroon)	£9.99
Class 87 (expected)	£8.49	**AIRFIX 00**	
Coaches (all liveries)	£2.25	14XX Tank GWR	£10.99
GUV BR Blue/Red & Cream/LMS	£1.99	Auto Coach GWR	£3.99
Milk Tanker (MS/ST fuel	£1.65	**HORNBY 00 GAUGE**	
Milk Tanker CWS/Express	£1.65	SR Schools (NEW)	£19.99
7 Plank Black/Buxton/Pinxton/Barrow	£0.89	SR Spitfire (NEW)	£19.99
Box Vans Typhoo/GTX/Lucas/Birds	£0.95	SR Coaches Comp/B End (NEW)	£3.99
Any 12 7 Planks or Vans for	£10.00	Zero 1 Loco Module	£5.99
Hopper BR/ARC/Yeoman/Tilcon	£1.30	Turntable and Motor	£14.99
Any 12 Hoppers for	£15.50	**WRENN**	
Bogie Bolster GWR (NEW)	£1.89	Royal Scot (3 liveries)	£31.99
6 GWR Bogie Bolsters for	£10.50	Tank Wagon Shell/Mobil/Esso	£2.35

TRADING TERMS Offers valid until 12/11/81 or stocks sold out. We refund if sold out. POST & PACKING Free over £30. For orders under £30 add £1 handling charge. Optional insurance 30p per order. Shop open 09.30 – 1.00 and 2.00 – 5.00 Wednesday, Thursday, Friday and Saturday or PHONE (0403) 50467. Shop Hours only.

AUTOROUTE MODEL RAILWAYS
16b BISHOPRIC, HORSHAM, WEST SUSSEX RH12 1QR

AIRFIX MODEL TRAINS COUNTY GUIDE TO RETAILERS

BEDFORDSHIRE

JOHN BRANDHAM
Tools & Model Railways
EVERYTHING FOR THE ENTHUSIAST
14 Market Square
Leighton Buzzard
"OO" **372137** "N"

CARDIFF

JAMES & LENDON
192 Fidlas Road
(Near Cedars Hotel)
Llanishen, Cardiff CF4 5LZ
'00', 'N' '009'. All leading makes of railways and accessories stocked.
Peco, Slaters, Ratio, Superquick, etc
0222 752563 Closed Tuesdays

KENT

Heisuretime Hobbies
KENT'S NEW MODEL RAILWAY CENTRE
Hours 9.30 5.30 Mon Sat
29 HIGH St HERNE BAY, KENT
Tel: HERNE BAY 4677
Easy Parking

SUSSEX

ROBERTSON
41 VICARAGE FIELD HAILSHAM · SUSSEX
TEL. 841842

BIRMINGHAM

021-357 2488
ALTON MODELS
897 WALSALL RD
GREAT BARR B42 1TN
Open 9.30am-6.00pm
Mon.-Sat.
Wednesday 9.30am-1.00pm

HANTS.

MODEL RAILWAYS AND COMMAND CONTROL SPECIALISTS.
Mail Order & Export welcome.
Fratton Bargain Shop,
165-173 Fratton Road, Portsmouth.
Telephone (0705) 27117/750774.
6 day week.

LEICS.

MODEL TOYS
76 Front Street
Birstall, Leics.
STOCKISTS OF
MODEL RAILWAYS – R/C CARS – MODEL AIRCRAFT
Secondhand Trains & Equipment bought sold & part exchanged
TEL. LEICS. (0533) 675529

WEST MIDLANDS

T.S.A. TRAIN SHOP
130 Walstead Road Walsall 22128
&
22 Pinfold Street Darlaston
021-526 5005
Late nights Weds. & Fri. till 9 pm
Sundays 11 am to 1 pm.
All makes & gauges 'N' Gauge specialists.
S.A. Railroading items imported direct.

BOBS MODELS LTD.

520-522 Coventry Road, Small Heath
Birmingham B10 0UN. Tel: 021-772 4917
WE ARE THE MIDLANDS LEADING STOCKISTS OF AMERICAN RAILROADING EQUIPMENT INCLUDING BRASS LOCOS
9.30-6.00 — Monday to Saturday
Early Closing — Wednesday 1.30pm

COWPLAIN MODELS

Model Railway Specialists
Extensive stocks, mail order a speciality. used models bought and sold
Fernwood House
London Road, Cowplain
Hants
Tel: (07014) 58955
Mon-Sat 9-5.30
Friday 9-7.00

SHROPSHIRE

BRIDGNORTH MODELS,
Sydney Cottage P.O. & Stores,
Sydney Cottage,
Bridgnorth,
Shropshire, WV16 4PP
For TAYLECTRIC, H & M, LIMA, HORNBY, RATIO, AIRFIX, GEM, MAINLINE, WILLS, KINGS CROSS, MERIT, K'S, etc.
Tel. 3817 BRIDGNORTH

MODEL TRAINS

Keep your magazines for future reference in the new **MODEL TRAINS** Cordex binder, designed to hold your copies so that month by month they build up into a complete volume. Each binder holds at least 12 copies and is blocked on the spine with the title. The colour is an attractive shade of medium green. As each copy of the magazine is packed with useful material it is well worth keeping neatly this way on your bookshelf.

Price is **£3.96 each,** including post, packing and VAT (overseas readers 25p extra). Send your remittance with name and address to: **Model Trains (Binders), 4 Surbiton Hall Close, Kingston, Surrey, England.** Cheques or POs payable to 'Model Trains'. Please allow up to 3 weeks for delivery.

N.B. Self adhesive dates are available at 20p each extra – please state year(s) required.

BUSCH

ELECTRONIC ACCESSORIES AND SCENIC ACCESSORIES FOR 'Z', 'N', 'HO' & '1' GAUGES

Micro-Electronic Sets with LED's – 14-16 volts input
5902 – 2 Traffic lights, 3 phase, HO with circuit board £14.79
5901 – As 5902 but without circuit board, use with 5902 ..... £7.85
5907 – Roadworks warning lights with circuit board £11.82

5908 – As 5907 but without circuit board 'HO' £4.30
5912 – Motorway maintenance trailer with warning lights (5) 'HO' £10.64

5926 – Garden party lights, string of 7 – 'HO' with control £5.90
5942 – Pedestrian crossing lights 'HO' – 2 phase with control £8.59
Above sets all for 'HO', following sets for 'N' gauge

5947 – Roadworks warning lights with control board £11.82
5948 – As 5947 but without control board £4.30
5950 – Level crossing warning lights (2) with control £6.22
5951 – As 5950 but without control circuit board £2.95
5952 – Motorway maintenance trailer with warning lights £10.64

'Z' and 'I' Gauge Sets
5954 – Level crossing warning lights 'Z' gauge with control £7.45
5955 – As 5954 but without control circuit board £4.30
8625 – Level crossing warning lights 'I' with control £8.27

Roadway, Ballast Kits, etc for 'Z', 'N' & 'HO' Gauges
7090 – 3 metre roll double sided tape with ballast 'HO' £2.76
7091 – Do. 22mm wide for 'N' £2.06
7092 – Do. 16mm wide for 'Z' £1.85

7094 – Pavement material 'HO' and 'N' 6 sheets £1.05
7095 – 2 metres 'HO' roadway with accessories £2.95
7097 – Do. for 'N' or 'Z' gauge £2.76

7098 – Cobbled road, 'HO' 1 metre x 80mm and 1 sheet £1.45
7099 – Do. for 'N', 1 metre x 40mm & 1 sheet £1.45
7194 – Modelling fabric for mountains etc £1.92
7195 – Modelling compound, 500 gr £1.41

7196 – Road markings set 'HO' £1.26
7197 – Road markings set 'N' £1.26
8612 – 2 stone wall panels 'I' gauge £1.26
8619 – 8 sacks produce, rice, tea, etc. for 'I' gauge £1.56

E.C.O.S. 22 BRITANNIA ROAD, POOLE, DORSET, BH14 8BB.
POSTAGE 50p ANY ORDER. PAY BY POSTAL ORDER, CHEQUE, ACCESS, BARCLAYCARD, AMERICAN EXPRESS, DINERS.

BUSCH CATALOGUE IN COLOUR, 43 PAGES, 60p POST FREE
ALL ORDERS DESPATCHED BY RETURN OF POST.

Bachmann is best in American Ho

LOCOMOTIVES:
Brill Trolley Car £8.95
USRA 0-6-0 w/smoke (ATSF) £15.75
4-8-4 w/smoke (Santa Fe or CB & Q £31.50
2-10-4 w/smoke (ATSF or PRR) £39.50
GS 4 Daylight 4-8-4 (SP, WP or Chessie) £29.25
4-4-0 Old Time "JUPITER" or UP 119 ..... £17.10
EMD F40 PH (ATSF) £9.45
F 9 Bo-Bo Diesel (UP, ATSF, BN, Amtrak, CN) £7.95
GP 30 Diesel (Burlington Northern) £9.00
GP 40 Diesel (UP, ATSF, BN, Conrail, SP, CN or CP) £9.00
GE U36B Diesel (CP Rail or Conrail) £9.45
GE E60CF Electric (SF) £9.90
GE E60CP (Amtrak or Rock) £14.40
Plymouth 0-6-0 Diesel (ATSF) £6.75
Jeepster or Chevvy Van Inspection Car (motorised) £3.60
Operating Hand Car (available mid. 1981) £5.85
Plasser Track Cleaner (available late 1981) £8.60
4-8-4 w/smoke and whistle (available late 1981) £45.00
2-20-4 w/smoke and whistle (available late 1981) £49.50

PASSENGER CARS:
Old Time Combine (CP or UP) £2.85
Old Time Coach (CP or UP) £2.85
85ft Amfleet Car w/lights £5.40
76ft Auto Carriers (Autotrain) £3.15
85ft Full Dome (Amtrak, Santa Fe or Autotrain) £4.50

FREIGHT CARS:
Please allow for substitution in case your first choice is sold out.
41ft Boxcar £1.40
Wide Vision Caboose £1.60
51ft Plugdoor Box £1.40
42ft Gondola £1.40
48ft 200-ton Flat with logs £1.80
62ft 3 dome Tank £1.80
Tri-level Autoracks w/autos £5.40
42ft Hopper £1.40
51ft Reefer £1.40
41ft Stock Car £1.40
Three dome Tank £1.40
56ft Alldoor Box £1.80
56ft Centraflo Hopper £1.99
Old Time (UP or CP) Box Car £2.25
Old Time (UP or CP) Flat Car £2.25
Old Time (CP) Gondola £2.25
Crane & Floodlight Car £6.50
Crane & Tender £4.95
Old Time (UP or CP) Caboose £2.25

MAIL ORDER:
Mail order is a pleasure — all orders are packed securely to ensure safe arrival. We can accept orders by Barclaycard and Access — just 'phone or write, with your credit card details, and we will do the rest, or send cheque or postal orders made payable to Victors.
All Liveries quoted are subject to availability — new Liveries are constantly being added. Unless specifically instructed otherwise, we will send substitute Liveries if your first choice is not available.

Please add 75p. per order for postage and packing.

VICTORS
166, Pentonville Road, Islington, LONDON, N1 9JL, ENGLAND.
Tel. 01-278 1019.

RAILMAIL Model Railways

ROYAL WEDDING FREE
Crown With every Locomotive

Order any Locomotive from this advert and obtain a Crown Free from Railmail

MAINLINE LOCOMOTIVES

Maroon Warship	£16.50	**£9.99**
*Blue Warship	£16.50	**£9.99**
J72 Joem		**£8.50**
J72 BR Early Crest		**£7.99**
BR Patriot Green	£27.50	**£17.50**
BR Patriot Black	£27.50	**£17.50**
BR Patriot Apple Green	£27.50	**£17.50**
BR Jubilee Green	£27.50	**£17.50**
LMS Black Jubilee	£27.50	**£17.50**
LMS Maroon Jubilee	£27.50	**£17.50**
GWR Manor	£27.95	**£18.99**
BR Manor	£27.95	**£18.99**
Steamsound Royal Scot	£34.50	**£19.99**
Steamsound BR Patriot Black	£34.50	**£19.99**
Steamsound Patriot Green BR	£34.50	**£19.99**

HORNBY LOCOMOTIVES

RO33 Morning Star	£27.95	**£19.99**
RO53 Manchester United	£26.95	**£17.99**
RO55 LMS 4P	£21.95	**£13.99**
RO57 Caledonian 0-4-0	£9.95	**£6.99**
RO59 GWR 0-6-0 Open Cab	£15.95	**£10.99**
R300 GWR Pannier	£13.50	**£9.99**
R301 LMS Jinty	£15.95	**£10.99**
R302 BR Jinty	£14.95	**£9.99**
R303 Evening Star	£28.50	**£18.00**
R305 Duchess of Abercorn	£27.95	**£18.00**
R309 A4 Mallard	£27.95	**£18.00**
R311 Duke of Sutherland	£26.50	**£18.00**
R313 GWR Hagley Hall	£20.95	**£13.99**
R315 LBSC Tank	£15.95	**£10.99**
R320 Class 5 Black	£24.95	**£17.00**
R333 GWR 0-4-0 Tank	£9.50	**£6.99**
R349 King Hendry	£25.95	**£17.50**
R372 LNER Seagull	£27.95	**£18.99**
R374 SR Spitfire	£24.95	**£18.99**
R376 LMS Compound	£26.95	**£19.99**
R387 LNER Cheshire	£26.95	**£19.99**
R380 SR Schools	£26.95	**£19.99**
R392 County of Bedford	£26.95	**£19.99**
R779 Desmond	£9.50	**£6.99**
R842 Class 5 Red	£24.95	**£17.99**
R852 Ivatt BR Green	£20.95	**£13.99**
R326 Class 25 Blue	£15.50	**£9.99**
R327 Class 25 Green	£15.50	**£9.99**
R328 Class 47 Mammoth	£19.95	**£13.99**
R335 Hymek	£14.95	**£9.99**
R337 Class 29 Blue	£14.95	**£9.50**
R338 Class 29 Green	£14.95	**£9.50**
R354 BR Green Diesel Shunter	£11.95	**£7.99**
R360 Class 86 Electric	£19.95	**£13.99**
R368 Western Maroon	£18.50	**£11.99**
R369 Class 37 Diesel	£16.50	**£10.99**
R778 Western Blue	£18.50	**£12.99**
R780 Diesel Shunter Blue	£12.50	**£7.99**
R332 3 Car HST	£28.95	**£18.99**
R794 5 Car APT	£52.75	**£39.99**

LIMA LOCOMOTIVES

1981 Deltic Blue	£13.95	**£8.99**
1981 Deltic Green	£13.95	**£8.99**
Old Deltic Blue	£13.95	**£7.99**
Old Deltic Green	£13.95	**£7.99**
Class 33 Blue	£11.75	**£6.99**
Class 33 Green	£11.75	**£6.99**
Diesel Shunter Blue	£12.85	**£7.50**
Diesel Shunter Green	£12.85	**£7.50**
Diesel Shunter Black	£12.85	**£7.50**
GWR Prairie	£16.99	**£10.99**
BR Prairie	£16.99	**£10.99**
GWR Pannier	£10.95	**£6.99**
BR Pannier	£10.95	**£6.99**
LNER J50 Green	£10.95	**£6.99**
BR J50 Black	£10.95	**£6.99**
GWR King	£27.95	**£15.99**
BR King	£27.95	**£15.99**
BR Crab Black	£27.95	**£14.99**
LMS Crab Maroon	£27.95	**£14.99**
2 Car DMU Green	£20.10	**£12.99**
2 Car DMU Blue	£20.10	**£12.99**
2 Car DMU Blue Grey	£20.10	**£12.99**
Warship Blue	£11.75	**£6.99**
Warship Green	£11.75	**£6.99**
Warship Maroon	£11.75	**£6.99**
Western Blue	£12.75	**£6.99**
Western Green	£12.75	**£6.99**
Western Sand	£12.75	**£6.99**
Western Maroon	£12.75	**£6.99**
GWR Railcar	£14.65	**£9.99**
BR Railcar	£14.65	**£9.99**
Class 87	£14.65	**£9.99**

JOUEF LOCOMOTIVES

Class 40 Blue	£16.05	**£11.99**
Class 40 Green	£16.05	**£11.99**

AIRFIX LOCOMOTIVES

Class 31 Diesel Blue	£15.25	**£10.50**
Class 31 Diesel Green	£15.25	**£10.50**
BR Royal Scot Green	£26.25	**£16.99**
LMS Black Scot	£26.25	**£16.99**
GWR Castle	£26.25	**£16.99**
BR Castle	£26.25	**£16.99**
BR Fowler	£18.99	**£12.99**
LMS Fowler	£18.99	**£12.99**
14xx GWR Tank	£16.50	**£10.99**
14xx BR Tank	£16.50	**£10.99**
GWR Prairie	£16.50	**£10.99**
BR Prairie	£16.50	**£10.99**

Messrs. Airfix have now been purchased by Messrs. Palitoy the Makers of Mainline, some Airfix items may be discontinued.

NEW GRAFAR N

3 car H.S.T.	£39.95	**£27.50**
III coach 1st	£3.99	**£2.99**
MC III coach 2nd	£3.99	**£2.99**

R316 Hornby Class 47 Blue Livery Lady Diana Spencer + Crown RRP £20.95 Railmail £14.95

"N GAUGE LOCOMOTIVES"

MINITRIX

N201 Dock Tank	£16.50	**£10.99**
N202 Ivatt 2-6-0	£27.95	**£18.00**
N203 Britannia	£27.95	**£18.00**
N204 Class 27 Green	£24.50	**£16.00**
N205 Ivatt 2-6-2	£26.25	**£19.99**
N206 Warship Blue	£24.50	**£16.00**
N207 Black 2-10-0	£37.50	**£24.99**
N208 Warship Green	£24.50	**£16.00**
N209 Evening Star	£37.50	**£24.99**
N211 A4 Mallard	£29.95	**£22.50**
N212 Class 27 Blue	£24.50	**£16.00**

LIMA LOCOMOTIVES N

Fowler 0-6-0 Black		**£8.99**
Fowler 0-6-0 Red		**£8.99**
Deltic Blue		**£8.99**
Deltic Green		**£8.99**
A1A Diesel Green		**£8.99**
A1A Diesel Blue		**£8.99**
Diesel Shunter Blue		**£7.50**
Diesel Shunter Green		**£7.50**

GRAFAR TRAIN SETS

BR Freight Set	£34.50	**£32.00**
LMS Freight Set	£35.00	**£32.00**
GWR Passenger Set	£37.50	**£34.00**
Caledonian Passenger Set	£38.50	**£34.00**

GRAFAR N LOCOMOTIVES

Diesel Shunter Blue	£14.25	**£9.99**
Diesel Shunter Green	£14.25	**£9.99**
Diesel Shunter Black	£14.25	**£9.99**
GWR Pannier	£15.74	**£10.50**
BR Pannier	£15.74	**£10.50**
GWR Prairie	£20.55	**£14.99**
BR Prairie Green	£20.55	**£14.99**
BR Prairie Black	£20.55	**£14.99**
GWR Hall	£25.77	**£16.00**
BR Hall	£25.77	**£16.00**
SR Merchant Navy	£25.77	**£16.00**
BR Battle of Britain	£25.77	**£16.00**
BR Battle of Britain Blue	£25.77	**£16.00**
LMS Black Compound	£21.82	**£15.99**
LMS Maroon Compound	£21.82	**£15.99**
BR Compound	£21.82	**£15.99**
Caledonian Compound	£21.82	**£15.99**
S & DJR Compound	£21.82	**£15.99**
LMS GP Tank Black	£15.45	**£9.99**
LMS GP Tank Red	£15.45	**£9.99**
BR GP Tank Black	£15.45	**£9.99**
SR GP Tank	£15.45	**£9.99**
LNER GP Tank	£15.45	**£9.99**
LMS Class 5 Black	£30.66	**£19.99**
LMS Maroon Class 5	£30.66	**£19.99**
BR Class 5	£30.66	**£19.99**
Class 47 Diesel Blue or Green		**£18.99**
Class 37 Diesal Blue		**£17.99**
Class 37 Diesal Green		**£17.99**
Class 47 Lady Diana Spencer		**£22.50**

HORNBY STEAM ROCKET

G100 Rocket Set	£99.95	**£65.00**
G102 Track Pack	£12.85	**£10.99**
G104 Pair of Points	£7.15	**£5.99**
G104 Rocket Coach	£31.15	**£27.50**

+Pair Points Free with every G100 Rocket.
PLUS POSTAGE £2.00.

SPECIAL OFFER

Purchase any £10.00 of Accessories from our list and obtain a **Hornby Royal Wedding Wagon.**
Send S.A.E. for details.

ZERO 1 CONTROLLERS

R950 Master Control	£53.95	**£34.75**
R951 Slave Unit	£14.50	**£10.99**
R955 Locomotive Module	£8.50	**£5.75**
R956 Point Module	£15.95	**£10.99**
Coding Paint		**75p**

Plus Postage £1.00

RAILMAIL SPECIAL

ZERO 1 Starter Pack
1 x R950 Master 2 x R955 Modules,
1 x Coding Paint £71.94 **£45.00**
Plus postage £1.00

SCALEXTRIC CAR RACING

CAR RACING SETS

C660 Grand Prix Set	**£29.50**
C650 Banger Set	**£32.50**
C656 Rallycross Set	**£33.50**
C642 500TT Motorcycle	**£37.50**
C658 Formula 1 Set	**£38.50**
C662 Superstok Set	**£39.99**
C664 Le Mans 24 hr Set	**£47.50**
C636 500 Set	**£49.99**

!Plus Postage on sets £2.00 each

SUPER FORMULA CARS

C126 Lotus 77	**£7.50**
C131 6W March Ford	**£7.50**
C134 Renault RS 01	**£7.50**
C136 Ferrari 312T3	**£7.50**
C137 Ligier JS11	**£7.50**
C138 Saudia Williams	**£7.50**

RALLY CARS

C109 Escort	**£6.50**
C110 Mini White	**£6.50**
C111 Mini Green	**£6.50**
C113 TR7 Red	**£6.50**
C114 TR7 Yellow	**£6.50**
C115 Porsche Turbo	**£6.50**
C117 Ford Capri	**£6.50**
C283 Rover	**£6.50**
Police Rover	**£8.99**

GRAND PRIX CARS

C103 BRM P160	**£5.50**
C10 Brabham	**£5.50**
C105 Shadow UOP	**£5.50**
C106 Wolf Blue	**£5.50**
C107 Wolf Red	**£5.50**
C108 McLaren	**£5.50**

CARS WITH LIGHTS

C118 Escort	**£7.99**
C119 Porsche	**£7.99**
C287 Escort Westwood	**£7.99**
C288 Porsche Silver	**£7.99**
C289 Porsche Gold	**£7.99**

Forward your ORDER to our Mail Order Department at 65 Vicarage Road, WATFORD. This **ADVERT MUST BE QUOTED TO OBTAIN PRICES**, and **SPECIAL CROWN PIECE.** CALLERS are WELCOME at either of our OUTLETS, prices will be HONOURED if the ADVERT is QUOTED at the time of SALE. All ORDERS must be prepaid, Cheques, POSTAL ORDERS should be CROSSED and made payable to RAILMAIL. We also accept ACCESS, BARCLAYCARD, VISA, AMERICAN EXPRESS, HOBBYCARDS plus Club 24 cards. Customers holding Credit Cards may telephone quoting their Card Number. We have a 24 Hour Answering Service.
POSTAGE. Due to our LOW PRICES we make a POSTAGE CHARGE of 50p per item, except where otherwise stated. Max postage Charge £1.00 except for higher Postage Items. ALL PRICES INCLUDE VAT at 15%. All OFFERS ONLY VALID IN THE UK. **EXPORT.** We will export to any Country in the WORLD, please write for QUOTATION. **PRICES.** All Prices held to 30.11.81 whilst stocks last OFFERS subject to close at any time. **CREDIT.** RAILMAIL can OFFER INSTANT CREDIT, and or CREDIT, please contact us for WRITTEN QUOTATION.

INSTANT CREDIT – up to **£120** available today. APR 28.3%. Just call, sign and take away!
Customers with a current bank account can, on production of a cheque card or credit card and proof of identity, can call, sign and take goods away up to **£120.00.**
Mail order customers requiring credit please write for an application form.

RAILMAIL MODEL RAILWAY CENTRES

65 VICARAGE ROAD, WATFORD, HERTS. 0923 46966
25 PARNIC STREET, GLASGOW. 041-552 5065

BARCLAYCARD VISA · Hobbycard · Railmail Card

NO SURCHARGES ON CREDIT CARDS

BRITAINS No1 SUPPLIER OF MODEL RAILWAYS

BEATTIES

"Stephenson to Apollo you'll marvel at our range of stock."

Whether you are looking for a fine replica of the very first successful steam locomotive, or a kit to build one of the latest projectiles to hurtle into space, you'll find them all at Beatties.

Our vast range of stock incorporates everything from models of yesteryear to electronic gadgets of the future. If you want to recapture the glorious days of steam, you'll find just what you're looking for among our fine collection of beautifully detailed steam locomotives, plus all the relevant scenic accessories and rolling stock to make your layout really authentic. We have vintage cars which make a super-looking collection, or kits of aeroplanes like the 'Spitfire' and 'Messerschmitt' which fought together over England so many years ago. Soldiers poised for battle and magnificent tanks and guns all await your orders. So many memories, and so many models to relive them with.

Speed freaks will love the fantastic range of radio-controlled Tamiya cars – for high performance competition, or buggies for rough ground racing. And all the accessories you need for this exciting pastime are available at Beatties. We have the latest computorised tank and even micro computers to control your locos or racing cars. Electronic games or space-age structures of the future – all model life is here!

Call in now for the latest and greatest in your hobby. It's all backed by expert advice and service from our staff, who are themselves enthusiasts in many different hobbies. Find out about innovations like the Beatties Club, with its terrific discounts for members; the 00/HO British Outline Publication, packed full of information; and our exciting new Super Deals, which offers items at very low prices. You will get a good deal with our part exchange and secondhand deals, and you may also take advantage of the Beatties Charge Account facility with its instant credit arrangements. Interest is charged at an Annual Rate of 26.8%, although this rate may be varied from time to time. Write to or call at any of our stores for a brochure and application form giving details of the credit terms which are available.

For everything the modeller could possibly want, including tools, etc., there's nothing to beat our stores. Remember, you'll find the past and the future at Beatties as well as the finest present!

A GREAT DEAL IN STORE FOR YOU

BEATTIES

Licensed Credit Brokers

Europe's leading model and hobby stores

CENTRAL LONDON: 112, High Holborn, WC1V 6JS. 01-405 6285/8592
SOUTH-EAST LONDON: 210, Lewisham High Street, SE13 6JP. 01-852 0449
NORTH LONDON: 10, The Broadway, Southgate, N14 6PN. 01-886 4258
NORTH LONDON: 104/106 High Road, Wood Green, N22 6HE. 01-888 0937
BIRMINGHAM: 26 South Mall, B'ham Shopping Centre, B2 4XD. 021-643 8604
BLACKPOOL: 19 Houndshill Centre, Victoria Street, FY1 4HU. 0253-26461
BRIGHTON: 4/8 Dyke Road, Sussex, BN1 3FE. 0273-776626
BRISTOL: 17/19, Penn Street, BS1 3AW. 0272-20259
CROYDON: 135A, North End, CR0 1TN. 01-688 1585
KINGSTON-ON-THAMES: 30/32, Eden Street, KT1 1EP. 01-549 5464
LEEDS: 16/18, King Charles Street, LS1 6LT. 0532-456611
LIVERPOOL: 36/37, Dawson Way, St John's Centre, LI1 1J. 051-709 0799
* *Mail Orders to Southgate branch*
MANCHESTER: 4/6, Brown St. off Market St., M2 1EE. 061-834 7780
NEWCASTLE: 43/47, Pilgrim Street, NE1 6QE. 0632-324161
NOTTINGHAM: 3, Mount Street, NG1 6JW. 0602-411693
ROMFORD: 7/11, High Street, RM1 1JU. 0708-24283
SHEFFIELD: 38, Pinstone Street, S1 2HN. 0742-77864
SOUTHAMPTON: 114, East Street, SO1 1HD. 0703-24843
WATFORD: 70, The Parade, High Street, Herts, WD1 2AW. 0923-27563